SMR Series

Smart Megapixel Video Recorder

Administrator Manual

Release 2.2

About This Document

This manual introduces the hardware components of SMR series and describes how to install them. It also provides an overview of Server surveillance functionality, and includes the functions of Video Management Software for operating and monitoring a Server network.

Version History

Version	Description	Date
1.0	Initial release	November 2011
1.1	1. New models are added. 2. Revise the Software Module Framework and add the System Architecture into the manual. 3. Add instructions for the SCC. 4. Add Software Installation section. 5. Add instructions for the Web Client.	January 2012
1.2	1. Add functionalities for SMR restore button. 2. Update the VMS version to 2.4.7.	March 2012
1.3	New models are added.	May 2012
1.4	Update for VMS2.4.7A09	August 2012
1.5	New models are added.	January 2013
1.6	Update for VMS2.4.8	May 2013
1.7	New models are added.	June 2013
1.8	Spec updated.	August 2013

1.9	New VMS FW2.5 AC 1.0 Added	August 2013
2.0	UI Modified	November 2013
2.1	Reinstallation section added	March 2014
2.2	Remote Monitoring Modified	June 2014

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Safety Precautions

Electric Shock Warning

This equipment may cause electric shocks if not handled properly.

- Access to this equipment should only be granted to trained operators and maintenance personnel who have been instructed of, and fully understand the possible hazardous conditions and the consequences of accessing non-field-serviceable units such as the power supplies.
- The system must be unplugged before moving, or in the even that it becomes damaged.

Reliable Grounding

Particular attention should be given to prepare reliable grounding for the power supply connection. It is suggested to use a direct connection to the branch circuit. Check for proper grounding before powering on the device.

Overloading Protection

The device should be installed according to specifications. Provide a suitable power source with electrical overload protection. Do not overload the AC supply branch circuit that provides power to the device.

ESD Precautions

Please observe all conventional anti-ESD methods while handling the device. The use of a grounded wrist strap and an anti-static work pad are recommended. Avoid dust and debris in your work area.

Device Site Recommendations

The device should be installed according to specifications. This device should be operated at a site that is:

- Clean, dry, and free of excessive airborne particles.
- Well-ventilated and away from heat sources such as direct sunlight and radiators.
- Clear of vibration or physical shock.
- Away from strong electromagnetic fields produced by other devices.
- Available with properly grounded wall outlet for power. In regions where power sources are unstable, apply surge suppression.
- Available with sufficient space behind the device for cabling.

Chapter 1. Product Overview

1.1. Features and Benefits

The SMR series is a state-of-the-art network video recorder features hardware RAID, low power and hot swappable hard disks. With bay hard disk trays, the SMR series is the best in class NVR that supports megapixel quality video of 6 to 48 channels for video retention periods from 7 to 40 days or more. In addition, the SMR series is fully burn-in-tested and uses preloaded Enterprise VMS to eliminate compatibility issues while reducing maintenance overheads. It is out of question that the SMR series is the most reliable and cost-effective solution for small to medium sized surveillance needs.

1.2. Specifications for the SMR Series

1.2.1. Hardware Specifications - Desktop Series

	SMR2000	SMR5000	SMR6000H/8000
System Processor	Intel ® Dual Core @ 1.8 GHz		Intel ® Core i3
System Memory	DDR3 2GB		DDR3 4GB
Chipset	Intel ® ICH9R		Intel ® Q67 Express Chipset
Disk on Module	4GB		
Storage	3.5" SATA HDD ; HDD hot swappable		
Hard Disk Trays	2 bay	5 bay	6/8 bay
I/O Interface	● VGA: 1xD-Sub ● RJ-45: 2x1 Gigabit Ethernet ● USB: 5x USB2.0 ● e-SATA: x1		● VGA: 1xD-Sub/1xHDMI ● RJ-45: 2x1 Gigabit Ethernet ● USB: 7x USB2.0 / 6x USB2.0 ● COM: x1
Analog			BNC Connector: 16x Video + 16x Audio (SMR6000H)
H/W RAID	RAID 0, 1	RAID 0, 1, 5	RAID 0, 1, 5, JBOD
Electrical	● Input Voltage: 12VDC, 5A ● Power Consumption (in operation): 43W	● Input Voltage: 100~240VAC, 3.5A ● Frequency: 47~63Hz ● Power Consumption (in operation): 43W	● Input Voltage: 100~240VAC, 4~8A ● Frequency: 47~63Hz Power Consumption (in operation): 430W
Operating Environment	● Humidity: 5 to 80% (non-condensing) ● Temperature: 5 to 40˚C		
LCD Panel	No	Yes	
LED Indicator	Yes		
Dimensions (mm)	190(H) x 110(W) x 245(D)	225(H) x 175(W) x 245(D)	310(H) x 175(W) x 380(D)
Weight (without hard drives)	3 kg	5 kg	9 kg
Certificate	BSMI, CB, FCC / CE Class B , UL60959/ IEC60950, GOST		

1.2.2. Hardware Specifications - Rackmount Series

	SMR4000U	SMR8000U
System Processor	Intel ® Dual Core 2.13GHz	Intel ® Core i3
System Memory	DDR3 2GB	DDR3 4GB
Chipset	Intel ® ICH10R	IntelR Q67 Express Chipset-Embedded
Disk on Module		
Storage	3.5" SATA HDD ; HDD hot swappable	
Hard Disk Trays	4 bay	8 bay
I/O Interface	● VGA: 1xD-Sub ● RJ-45: 2x Gigabit Ethernet ● USB: 5x USB2.0; 2x USB3.0 ● e-SATA: x1	● VGAx1; HDMIx1 ● RJ-45: 2x Gigabit Ethernet ● USB: 6x USB2.0 ● COM: x1
H/W RAID	RAID 0, 1, 5	RAID 0, 1, 5, JBOD
Electrical	● Input Voltage: 100~240VAC, 3.5A ● Power Supply: 250W	● Input Voltage: 100~240VAC, 3.5A ● Power Supply: 430W
Operating Environment	● Humidity: 5 to 80% (non-condensing) ● Temperature: 5 to 40°C	
LCD Panel	N/A	Yes
LED Indicator	Yes	
Dimensions (mm)	225(H) x 175(W) x 245(D) mm	88.15(H) x 445(W)x 651.15(D) mm
Weight	5 Kg	8.9 Kg
Certificate	BSMI, CB, FCC / CE Class B, UL60959/ IEC 60950, CCC for power only, GOST	

1.2.3. VMS Specifications

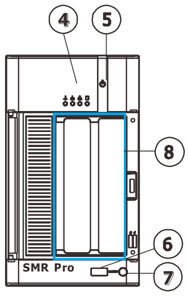
Live View	• Real-time network camera discovery • Versatile views of various screen divisions • HTML and image overlays • Multiple views supported • View patrolling for single or multiple views • Real time video/event alarm display • Instant playback • Video clip bookmarking
eMAP	• Drag-n-drop camera manipulation • Directional camera display • Hierarchical map structure • Real time event alert • Instant live video of camera • Multiple maps supported
PTZ	• Pan, tilt, zoom operations (dependent of the camera) • Built-in, floating PTZ control panel • Preset position (dependent of the camera) • Scheduled or continuous camera patrolling • Event-driven camera patrolling
Investigation	• Search by date, time, camera • Search by pre-defined recent time • Search by VI event combinations • Search over multiple days • Search over multiple cameras • Video clip bookmarking and commenting • Search via built-in VI analyzer • Customizable bookmark • Intuitive, video thumbnail search results • Cue-in, cue-out and repeat • Quick playback by video thumbnail • 1/8, 1/4, 1/2, 1x, 2x, 4x, 8x play, pause, stop • AVI-formatted video clip export
Instant Playback	• Supported in video alarm, event alarm, view functions • Pre-defined playback durations • Video clip bookmarking
Video Intelligence	• General motion detection • Missing object detection • Foreign object detection • Intrusion detection • Forbidden area detection • Tampering detection • Virtual Fence •Object Counting
Remote Management	Full functional operation & management via standalone VMS Client
3rd Party IPCAM	ACTI, ASONI, AVTECH, AXIS, Arecont, Sosch, Brickcom, DyNACOLOR, D_Link, Dahua, EDIMAXHIKVISION, EverFocus, HIKVISION, IQinVision, Lilin, Eessoa, Mobotix, ONVIF, Panasonic, SIMON, SONY, Samsung, Surveon, VIVOTEK
General & Misc	• Video codec: H.264, MPEG4, MJPEG • Image enhancement • Video privacy mask • Digital zoom in, zoom out • Log viewer • Windows lockup

	• Client auto login • Digital I/O management • Automatic storage recycling • Client-server architecture • Guaranteed performance of long period recording • Configurable video retention period • Language supported: English, French, German, Japanese, Portuguese, Spanish, Simple Chinese, Traditional Chinese

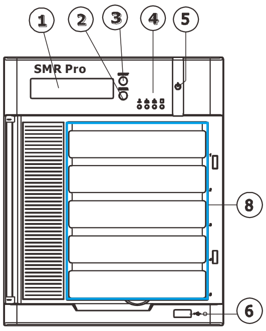
Chapter 2. Hardware Overview

2.1. Front Panel

SMR2000 Series

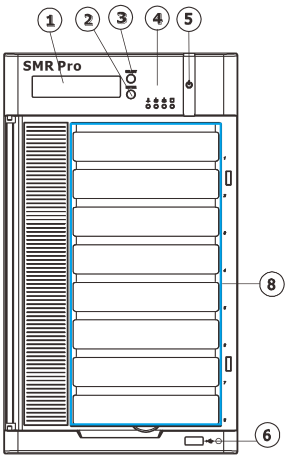


SMR5000 Series



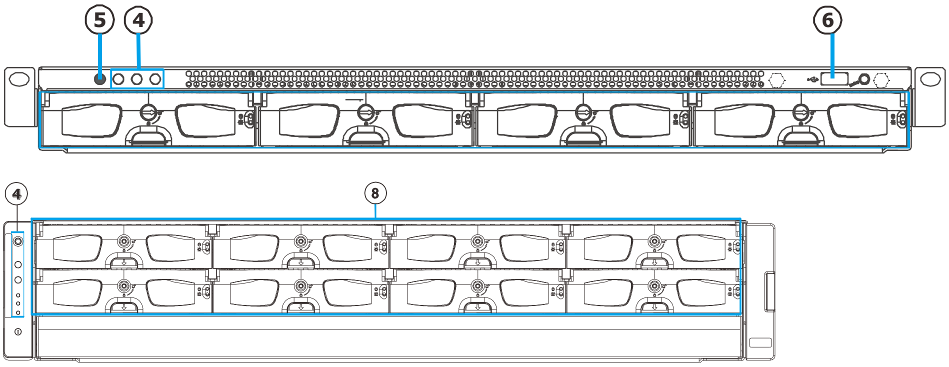
SMR6000H/

8000 Series



SMR4000U/

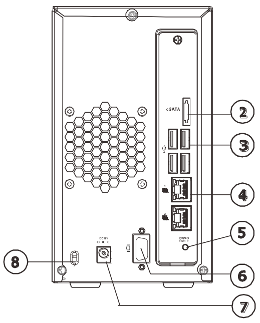
8000U Series



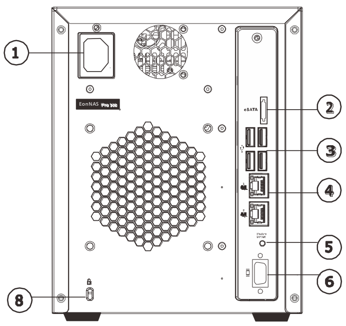
	Function
1. LCD Display	Shows system messages.
2. Enter Switch	Confirms the options and functions after the Select Switch is used.
3. Select Switch	Shows the menu for choosing RAID0, RAID1 or RAID5. Please refer to the RAID Option Table while choosing a RAID level.
4. LED Indicators	Indicates the network, hard drive, and system status.
5. Power Switch	Powers up the SMR. When the power is on, the power indicator will shine in blue.
6. Front USB Connector	Connects external accessories such as mouse, keyboard or other external devices.
7. Video Back Up Button	Reserved.
8. Hard Drives Slots	Hard drive locations

2.2. Rear Panel

SMR2000 Series

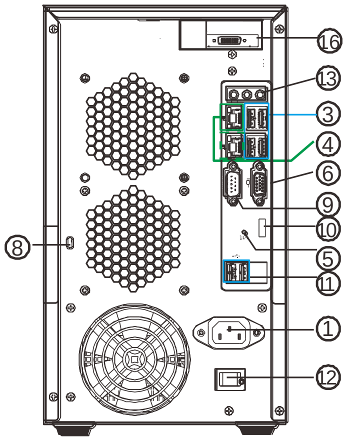


SMR5000 Series



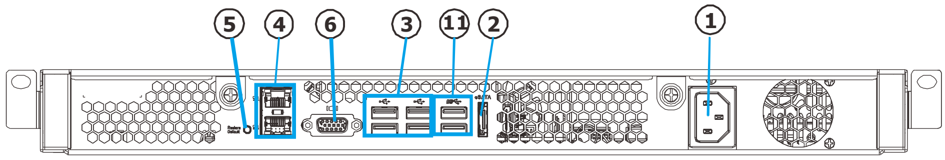
SMR6000H/

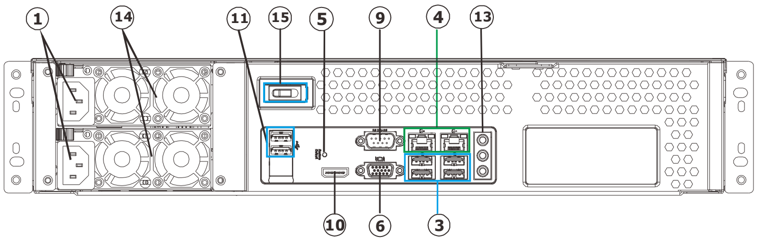
8000 Series



SMR4000U/

8000U Series





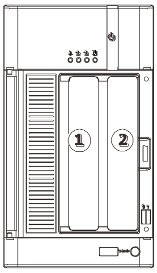
	Function
1. Power Socket	Used for connecting power cable.
2. e-SATA Port x1	Used for connecting the SMR with e-SATA drives.
3. USB Port x4	Used for exporting video clips as evidence support to external storage devices.
4. LAN Port (GbE Ethernet port) x2	Used for connecting the SMR with the network. Note that only the upper LAN port can be used.
5. Restore Button	Use for reset the system to factory default. For details, please refer to the table below.
6. VGA Port	Used for attaching an external monitor to the SMR.
7. 12V DC Power Port	Used for connecting power cable.
8. Kensington Lock-hole	For use with a Kensington lock. Please refer to your Kensington lock for instructions.
9. COM Port	Reserved
10. HDMI Port	Used for connecting audio/video devices such as video projectors and DVD players.

11. USB Port x2	Used for exporting video clips as evidence support to external storage devices.
12. Safety Switch	Used for preventing injury if someone inadvertently attempts to open the machine. Please make sure it’s on after the power cable is attached to the power socket.
13. Audio Ports	Used for attaching audio devices such as headphones and speakers.
14. Power Supply Units	The two power supplies are hot-swappable and redundant.
15. Power Switch	The power switch on 8000U system can be located on the rear panel.
16. BNC Connector	Used for connecting analog cameras.

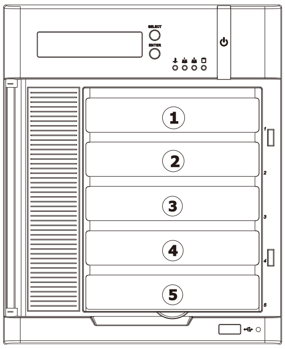
2.3. Hard Drive Designation

The hard drive arrangement for each system is shown below. The general alignment is from left to right and/ or top to bottom in numeric order.

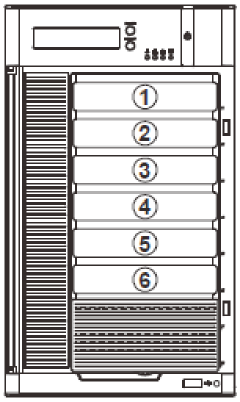
SMR2000 Series



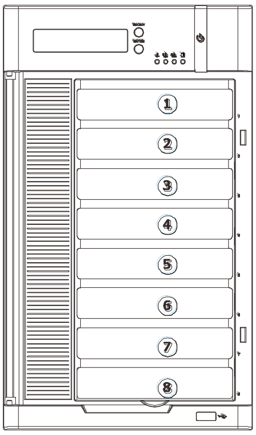
SMR5000 Series



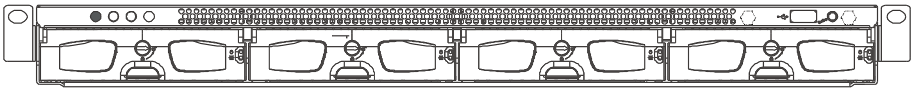
SMR6000H Series



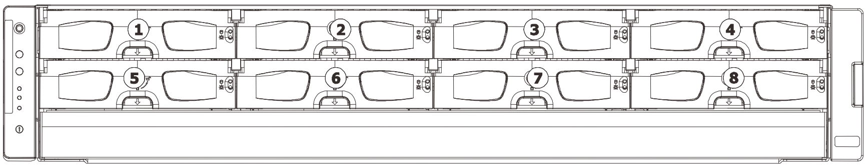
SMR8000 Series



SMR4000U Series

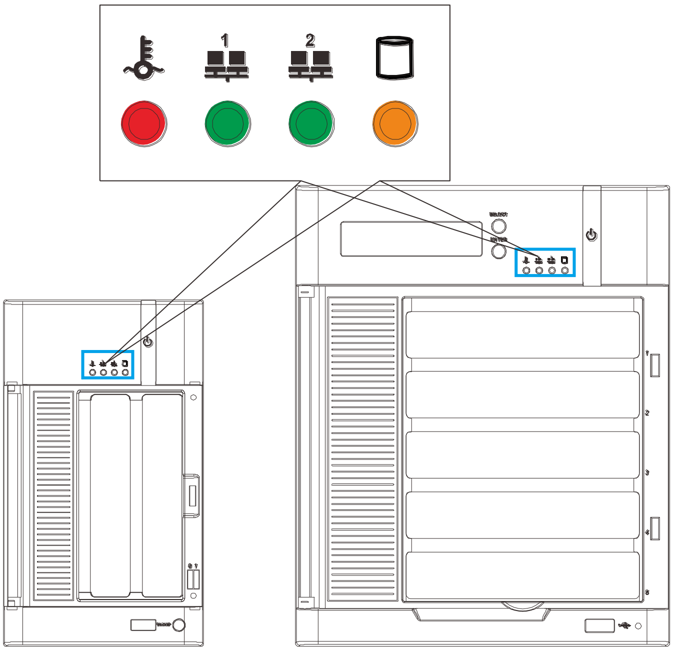


SMR8000U Series



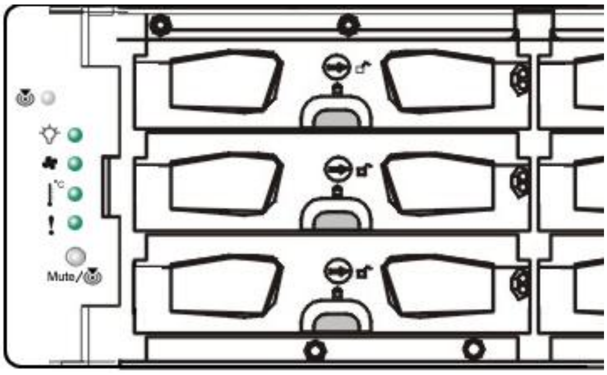
2.4. LED Definitions

2.4.1. Desktop System Front Panel LEDs



Name	Color	LED Status	Function
Network 1 2 ● ●	Green	On	Indicates that power is on and network is connected.
		Off	Indicates that network is disconnected.
		Blink	Indicates that network activity is in progress.
HDD ●	Amber	On	Indicates that the hard drive can be accessed.
		Off	Indicates that a hard drive read/write error occurred.
		Blink	Indicates one of the followings: (1)Disk volume creation is in progress. (2)Online RAID level migration is in progress. (3)RAID rebuilding is in progress.
System ●	**Red**	On	Indicates the system fan is malfunctioning.
		Blink	Indicates that system is starting up.

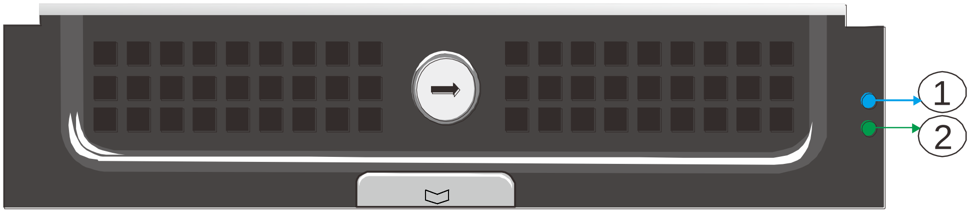
2.4.2. Rackmount System Front LED Panel



LEDs / Button	Icon	Color	Description
Service LED	◎	White	This LED indicates the system requires service when lit.
Power Status LED	💡	Green (Normal) / Amber (Fail)	This LED is used to warn users of power supply status
Cooling Module Status LED	✤	Green (Normal) / Amber (Fail)	This LED is used to warn users of cooling module status
Temperature Sensor Status LED	🌡 °C	Green (Normal) / Amber (Abnormal)	This LED is used to warn users of temperature status
System Fault LED	!	Green (operating normally) / Amber (Warning)	This LED indicates normal operation / system failure
Mute and Service LED Off Button	Mute/ ◎		Reserved

2.4.3. Drive Tray LED

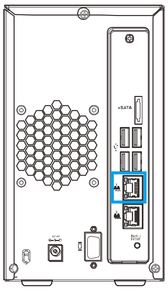
Two LED indicators are located on the right side of each drive tray. When notified by a drive failure message, you should check the drive tray indicators to find the correct location of the failed drive.



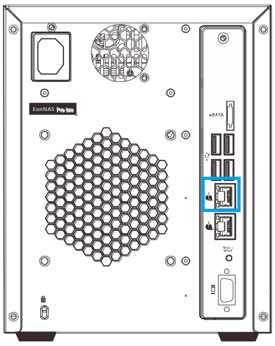
Name	Color	LED Status	Function
1. Drive Busy LED	Blue	Blink	Indicates that the data is being written to or read from the drive.
		Off	Indicates that there is no activity on the disk drive.
2. Power Status LED	Green / **Red**	On	GREEN indicates that the drive bay is populated and is working normally. RED indicates that the disk drive has failed, or a connection problem occurred.

2.4.4. Rear Panel Ethernet LED

SMR2000 Series

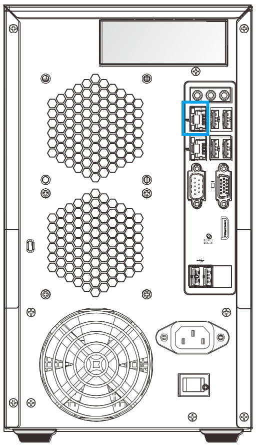


SMR5000 Series

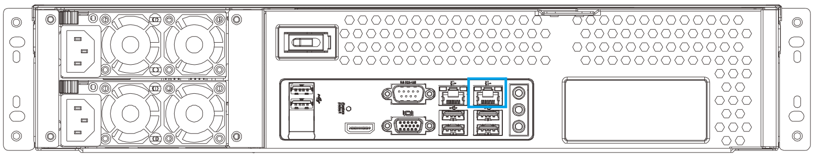


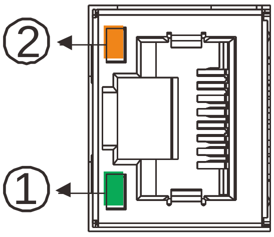
SMR6000H/

8000 Series



SMR8000U Series





Name	Color	LED Status	Function
1. Link Status LED	Green	On	Indicates that the connection is established.
		Off	Indicates that the connection is not established.
2. Activity LED	Amber	Blink	Indicates data transfer activity

Chapter 3. Software Overview

3.1. Software Introduction

Video Management Software (VMS) is a highly modular and powerful video and hardware management suite that incorporates Server recording, management, and video monitoring and playback functionalities to serve the core purposes of a video surveillance system.

It operates in a client-server mode: The Local Client and Local Domain Server run for standalone SMR/NVR/VMS Server, while the Remote Client receives live video streams and event video playbacks from LAN or Internet. All administrative tasks are performed on the Client. The client software provides the ability to monitoring and playback recorded videos from multiple cameras. And for users having multiple SMR/NVR/VMS Servers, Central Management Software (its main functions are the same with the VMS) can be utilized to manage over the domain infrastructure.

3.2. Module Framework

- VMS/NVR Server
  - Combines video recording, archival and retrieval functionalities for individual servers/standalone PCs.
  - Serves as the connection point for client stations.
- Local Domain Server
  - The interface between the VMS/VI Servers and any clients.
  - User authentication server.
- Local Client
  - Local access, VMS Client installed on standalone PCs/SMRs for live video monitoring, event recording playback access and VMS system configuration.
- Remote Client (full functions)
  - Remote access, VMS Client installed on remote PCs for live video monitoring, event recording playback access.
  - Serves as the default configuration point for NVR2000 series, which do not have a Local Client.
- Web Client (for simple use)
  - Remote access, an ActiveX application (OCX) installed on remote PCs for live viewing and event playbacks through the web browser.
- SPhone Client (for simple use)
  - SPhone Client installed on iOS/ Android devices for basic live viewing.
- Web Server
  - Allows user to access the live video stream, PTZ control and event recording playbacks through Microsoft Internet Explorer 7.0 (or higher) after the Web Clients components are downloaded.
- VI Server
  - The video intelligence processing point for a VMS solution.
  - Preinstalled on SMR/NVR Server, and optional on a separate server/PC (VMS).
- SCC Domain Server
  - Allows centralized control over multiple Trusted VMS Server points and connections from multiple clients.
- SCC Client

- Software capable of accessing multiple Trusted VMS Servers through the SCC Domain Server

3.3. System Architecture

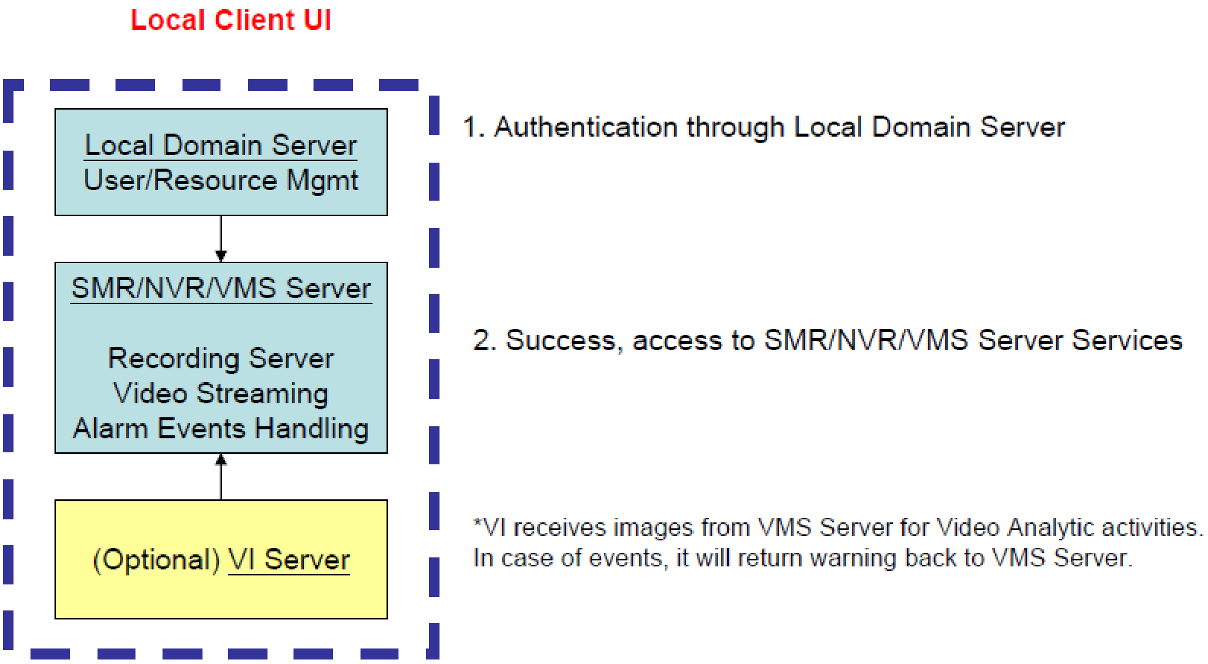
VMS operates in scalable client - server architecture. This architecture can be divided into three types: (1) Standalone Server (2) Standalone Server + Remote Client (Web Client/SPhone Client) (3) Multiple Servers + SCC Client.

These are the hardware requirements for using PCs as Server or Client.

VMS Server + Client			
Support NVRs	≥ 32CH	16~32CH	≤ 16CH
OS	64-bit : Windows 7 Professional, Enterprise, Ultimate		
CPU	Intel Core i7-980X or above	Intel Core i7-860 or above	Intel Core i5-650 or above
Memory	4 GB or above		
Display	nVidia GeForce GTX660 2GB or above		
Hard Drive	SATA 7200 RPM, 500 GB or above		
Network	1 Gbps or above		
Remote Client			
OS	64-bit : Windows 7 Professional, Enterprise, Ultimate		
CPU	Intel Core i7-980X or above	Intel Core i7-860 or above	Intel Core i5-650 or above
Memory	4 GB or above		
Display	nVidia GeForce GTX660 2GB or above		
Hard Drive	SATA 7200 RPM, 500 GB or above		
Network	1 Gbps or above		
VMS Server Only			
OS	64-bit : Windows 7 Professional, Enterprise, Ultimate		
CPU	Intel Core i3-530 or above		
Memory	4 GB or above		
Display	On board (generic) 256MB or above		
Hard Drive	SATA 7200 RPM, 500 GB or above		
Network	1 Gbps or above		

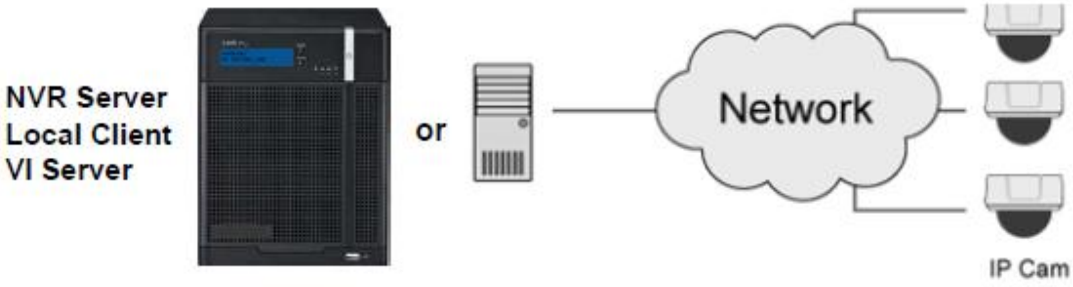
3.3.1. Standalone Server (Client-Server All-in-One)

For users with standalone Server, the Local Client UI is used to manage SMR Server services:


Local Client UI
Local Domain Server
User/Resource Mgmt
SMR/NVR/VMS Server
Recording Server
Video Streaming
Alarm Events Handling
(Optional) VI Server
1. Authentication through Local Domain Server
2. Success, access to SMR/NVR/VMS Server Services
*VI receives images from VMS Server for Video Analytic activities.
In case of events, it will return warning back to VMS Server.

※Application:

The Server, IP cameras are all in the same LAN.



Use SMR as Server

No installation needed.

Use PC as Server

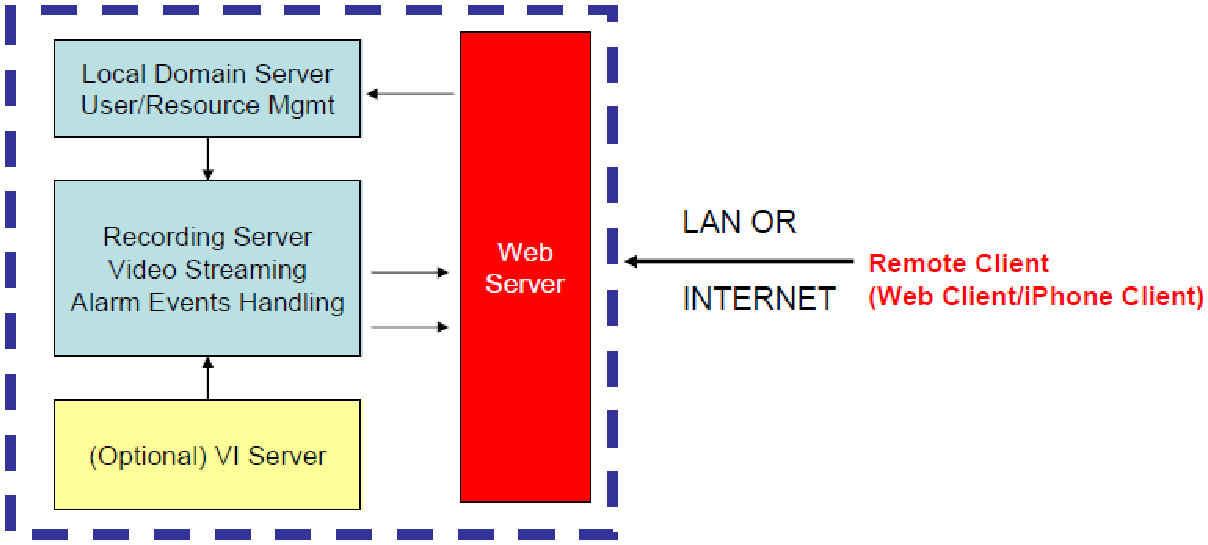
Install both the VMS/NVR Server and VMS Client on a PC:

①Insert the VMS/IPCAM product CD. ②Click **VMS Suite** on the menu to start the installation. ③Choose *Typical Setup*. If you don't need video analytic functions, *Advanced Setup* can be selected to uncheck the VI Server.

3.3.2. Standalone Server + Remote Client (Web Client/SPhone Client)

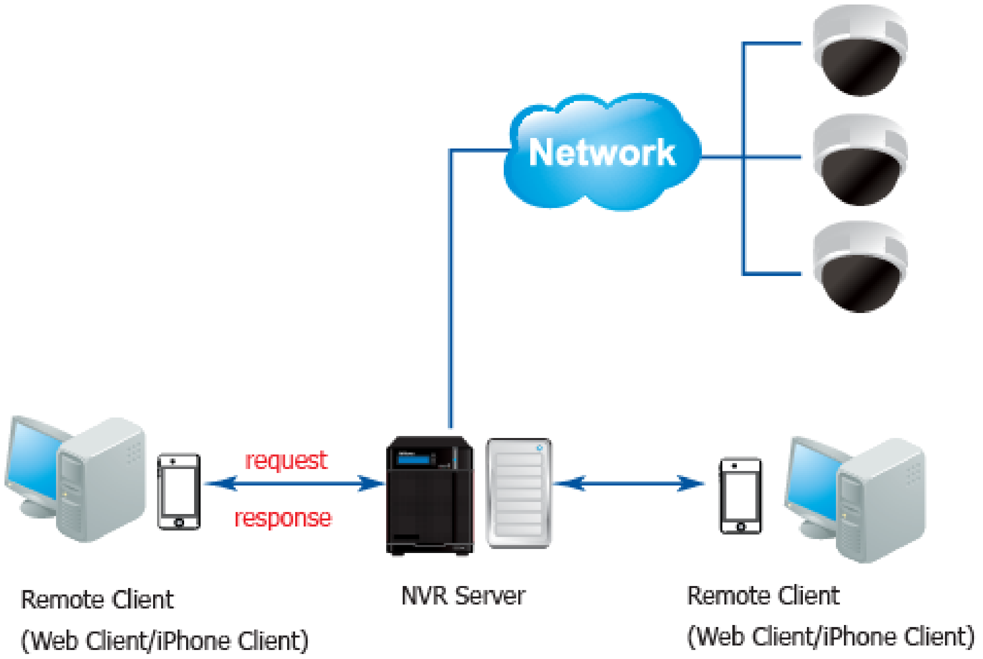
For remote users to connect to SMR/NVR Server, a remote access, VMS Client installed on remote PCs is needed for live video monitoring, event recording playback access.

Also, the Web Client, an ActiveX application (OCX) can be used for basic live viewing and event playbacks through the web browser, while SPhone Client can be used for basic live viewing on iPhone/Android devices.



Application1: Internet

The Server, IP cameras and the PC/iPhones are all in the same LAN.



[NVR Server]

Use SMR/NVR as Server

No installation needed.

Use PC as Server

Install the VMS/NVR Server on a PC:

① Insert the VMS/IPCAM product CD.

②Click **VMS Suite** on the menu to start the installation.

③Choose *Advanced Setup* to uncheck the VMS Client.

If you don't need video analytic functions, the VI Server can also be unchecked.

Install the Web Server on the PC:

① Insert the VMS/IPCAM product CD.

②Click **Browse CD/DVD** in the menu.

③Double click **WebServerSetup.exe** to start the installation.

[Client]

Install the VMS Client on PCs:

①Insert the NVR/SMR product CD.

②Click **VMS Client** on the menu to start the installation.

Install the Web Client on the PCs (Optional):

Launch Microsoft Internet Explorer 7.0 (or above) and enter your **VMS Server IP address + "/webclient"** in your web browser's URL location, eg. http://172.18.6.9/webclient to download the Web Client application.

Install the Web Client on the PCs (Optional):

Install the SPhone Client (Optional):

Download the SPhone Client from App Store on the iPhone desktop.

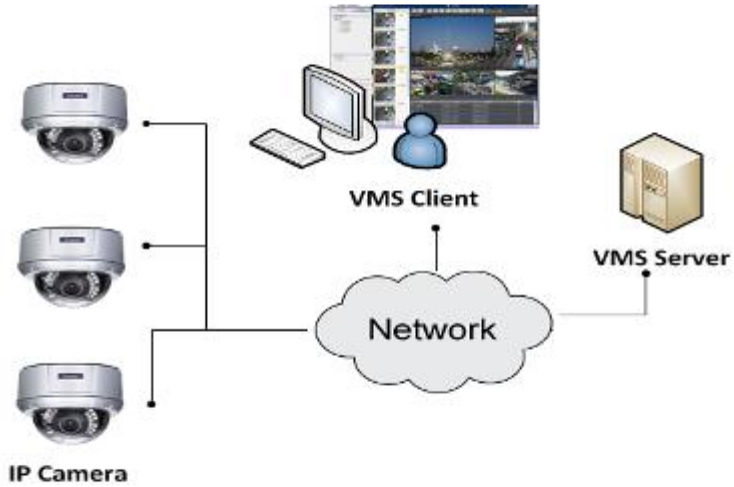
Install the SPhone Client (Optional)

Download the SPhone Client from App Store on the Andriod phone desktop.

Note: Please refer to *Installing the VMS and Installing the Web Client* for details.

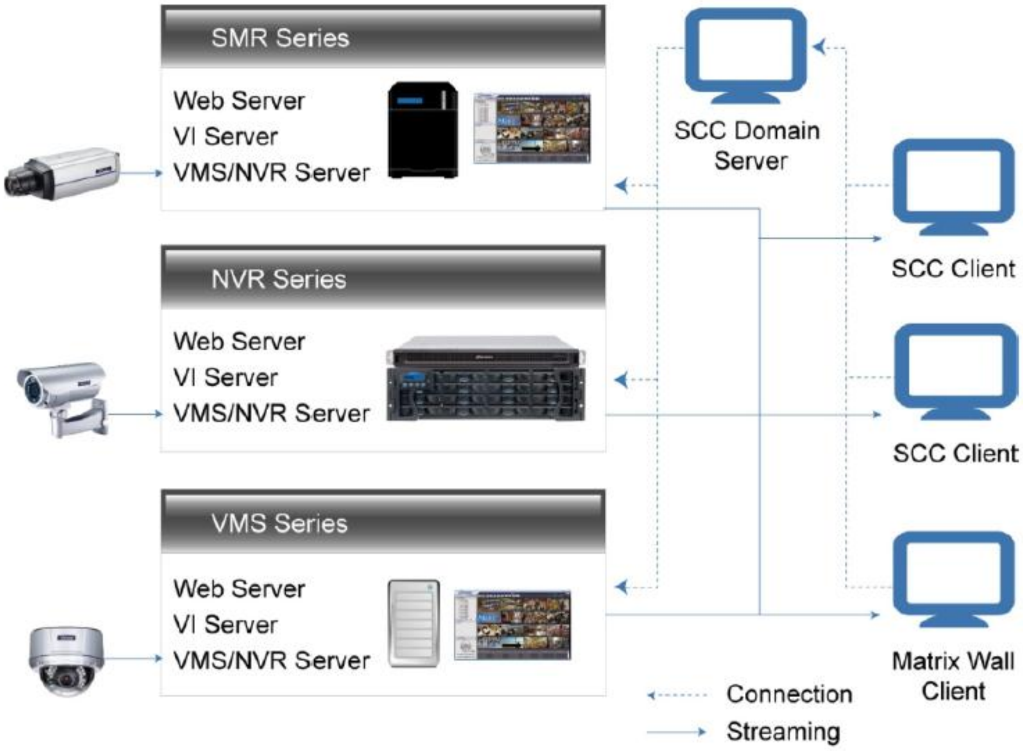
Application 2: Internet

The Server, some of the IP cameras and the PC are all in the same LAN, while the other IP cameras are installed in remote location with Public IP.



3.3.3. Multiple Servers + SCC Client

For users with multiple SMR/NVR Servers, SCC Client UI is used to manage over the domain infrastructure.

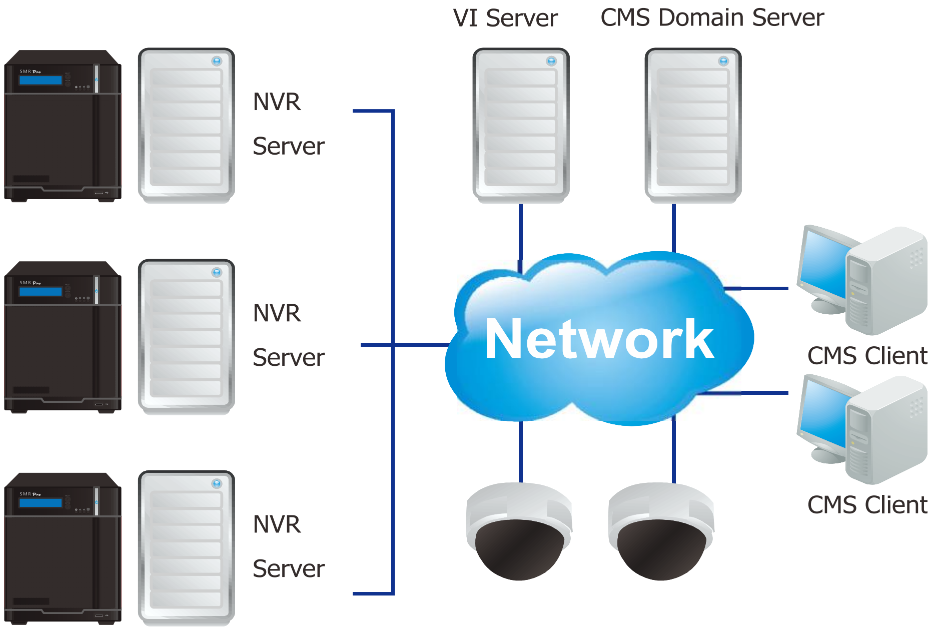


Application3: Internet

(1) The Servers, IP cameras and the PCs are in LAN A.

(2) Some IP cameras are installed in LAN B, which is behind a different router in a remote location.

(3) Users are allowed to connect the SMRs/NVRs from remote PC over the Internet.



[NVR Server]

Use SMR/NVR as Server

No installation needed.

Use PC as Server

Install the VMS/NVR Servers on PCs:

①Insert the VMS/IPCAM product CD.

②Click **VMS Suite** on the menu to start the installation.

③Choose *Advanced Setup* to uncheck the VMS Client.

The VI Server can also be unchecked, if you don't need video analytic functions.

[VI Server] (Optional)

You can choose to install the VI Server only on a standalone PC to manage the video intelligence data.

①Insert the VMS/IPCAM product CD.

②Click **VMS Suite** on the menu to start the installation.

③Choose *Advanced Setup* to choose VI Server only.

[SCC Domain Server]

Install the SCC Domain Server on a PC:

①Insert the NVR/SMR product CD.

②Click **SCC Suite** on the menu to start the installation.

③Choose *Advanced Setup* to select the SCC Domain Server only.

[SCC Client]

Install the SCC Client on PCs:

①Insert the NVR/SMR product CD.

②Click **SCC Suite** on the menu to start the installation.

③Choose *Advanced Setup* to select the SCC Client only.

Note: (1) For users don’t have Surevon SMR/NVR series, please contact your dealer for the SCC installation file. (2) The SCC Domain Server can also be installed together with the SCC Client in the same PC by choosing *Typical Setup*. (3) Please refer to *Installing the VMS* and *Installing the SCC* for details.

3.3.4. Network Requirements

In order to preserve enough bandwidth for surveillance video, a surveillance network is presumed to be free of user/business traffic. Server software currently supports Class B and Class C type addresses. Currently the Server software only searches for Servers on the same subnet. Cameras should also reside on the same subnet.

Opening Ports

If access through a firewall in a local network is required, try opening the following ports: SMTP (25), HTTP (80), FTP (20, 21), OMNI (2809), HTTPS (443) and RTSP (554, 8554.). Other ports should also be opened while using port forwarding to access the VMS Server: Stream Port (9090), Doman Data Port (9060), Log Download Message Port (15507) and Log Download Data Port (9080).

Note: Please refer to *Port Forwarding* Section for more details.

Warnings / Precautions

If the Server and a VMS client reside on separate subnets, please set up gateway, VLAN, or cross-subnet routing to bridge surveillance traffic. Please consult with a network administrator for problems with network setups. A VMS client needs to be rebooted when network settings are changed.

3.4. Port Forwarding

Port forwarding is a name given to the combined technique of:

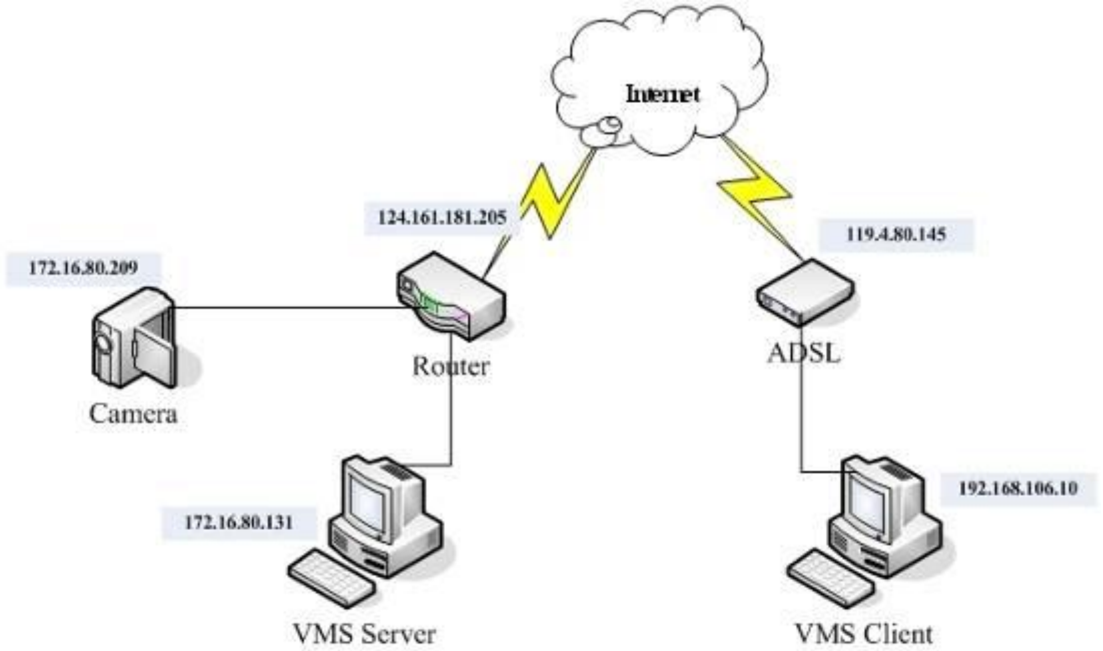
1. Translating the address and/or port number of a packet to a new destination.
2. Possibly accepting such packet(s) in a packet filter (firewall).
3. Forwarding the packet according to the routing table.

To illustrate its concept, two computers on the Internet that communicate with each other using TCP/IP or UDP/IP protocols(though the process is not limited to these) utilize ports to identify the opposite connection points of each other where the data packets supposed to go to. In order to communicate, each computer knows the port of another computer (in addition to IP address) and sends the data to that port. Port forwarding forwards these ports in such a way that when one computer sends data to the specific port of another computer, the data is actually sent to a different port. This allows remote computers to connect to a specific computer or service within a private LAN.

In a typical residential network, nodes obtain Internet access through a DSL or cable modem connected to a router or network address translator (NAT/NAPT). Hosts on the private network are connected to an Ethernet switch or communicate via a wireless LAN. The NAT device's external interface is configured with a public IP address. The computers behind the router, on the other hand, are invisible to hosts on the Internet as they each communicate only with a private IP address.
When configuring port forwarding, the network administrator sets aside one port number on the gateway for the exclusive use of communicating with a service in the private network, located on a specific host. External hosts must know this port number and the address of the gateway to communicate with the network-internal service.

When used on gateway devices, a port forward may be implemented with a single rule to translate the destination address and port. The source address and port are, in this case, left unchanged. When used on machines that are not the default gateway of the network, the source address must be changed to be the address of the translating machine, or packets will bypass the translator and the connection will fail.

3.4.1. Port Forwarding for Accessing VMS Server



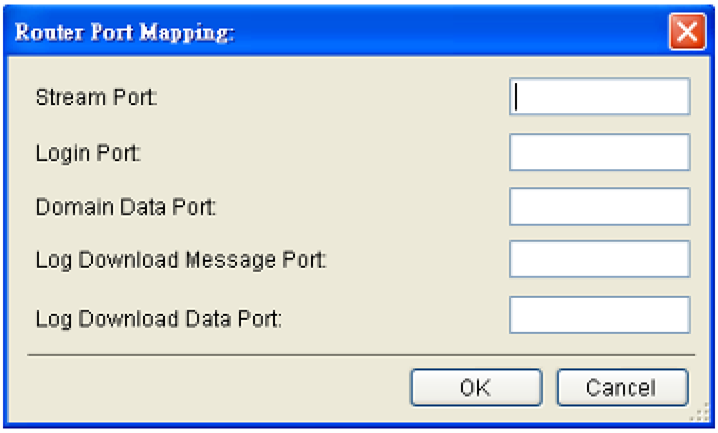
To enable port forwarding for accessing VMS Server, please follow the steps below:

1. Do Router Port Mapping for VMS/NVR Server

   Go to ***Setup*** > ***Other Tasks*** > ***Server*** > ***Router Port Mapping*** in VMS after it is installed.

Note: The VMS/NVR Server is preinstalled in NVR2000/SMR Series.

A *Router Port Mapping* window will prompt for entering port numbers. Please put in the numbers as listed below:



Stream Port: 9090

Login: Port: 2809

Doman Data Port: 9060

Log Download Message Port: 15507

Log Download Data Port: 9080

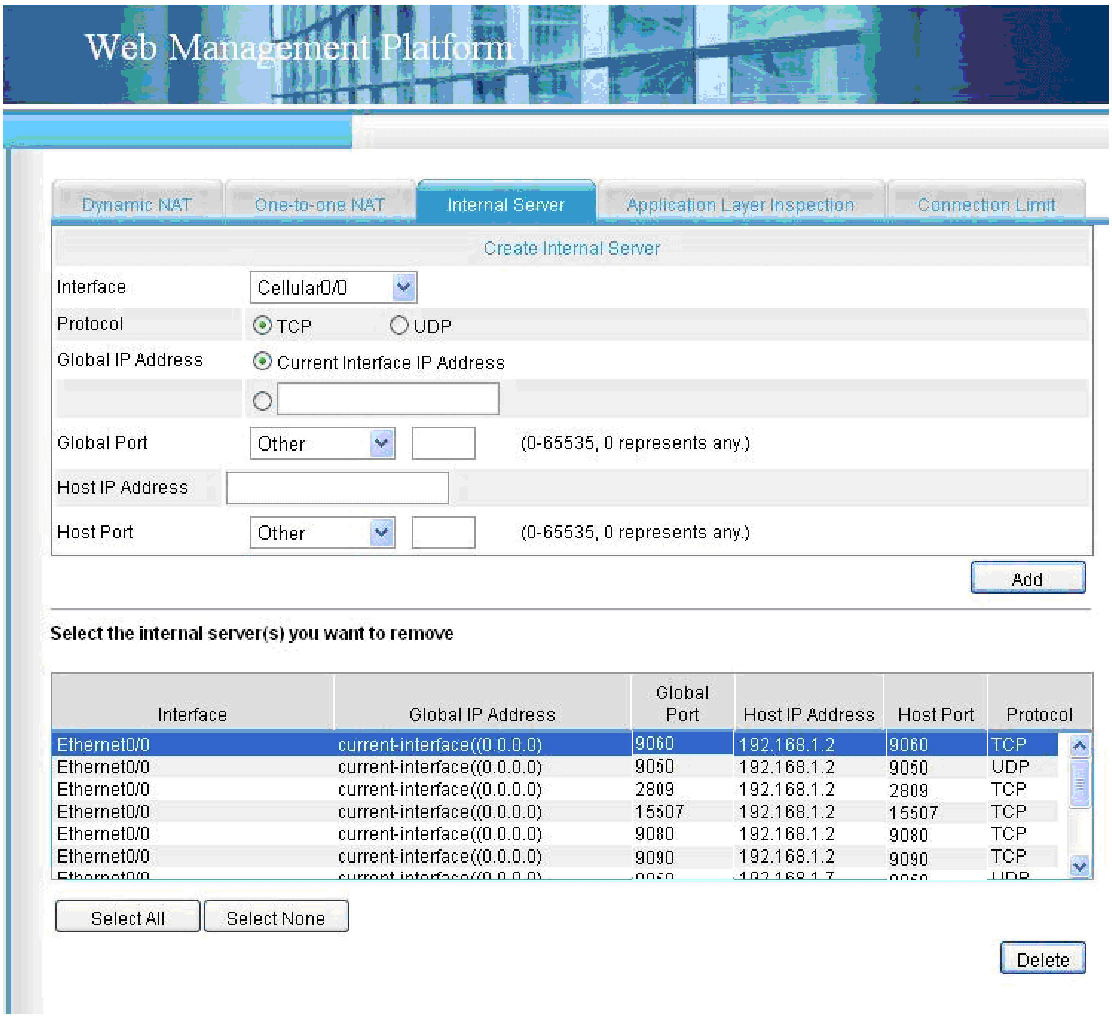
2. Open Ports on the Router

Host Ports: The private ports that the internal VMS/NVR Server use, which are unchangeable.

Global Ports: The public ports for remote clients to connect to the internal VMS/NVR Server. The Global ports are changeable, but the simplest way is to make them the same with the host ports.

Please open the listed ports on your router:

Port(Host/Global Port)	**Protocol**	**Port Number**
Domain Message Port	UDP	9050
Domain Data Port	TCP	9060
Login Port	TCP	2809
Stream Port	TCP	9090
Log Download Message Port	TCP	15507
Log Download Data Port	TCP	9080



Create Internal Server

Interface	Cellular0/0	
Protocol	● TCP ○ UDP	
Global IP Address	● Current Interface IP Address	
	○	
Global Port	Other	(0-65535, 0 represents any.)
Host IP Address		
Host Port	Other	(0-65535, 0 represents any.)

Select the internal server(s) you want to remove

Interface	Global IP Address	Global Port	Host IP Address	Host Port	Protocol
Ethernet0/0	current-interface((0.0.0.0)	9060	192.168.1.2	9060	TCP
Ethernet0/0	current-interface((0.0.0.0)	9050	192.168.1.2	9050	UDP
Ethernet0/0	current-interface((0.0.0.0)	2809	192.168.1.2	2809	TCP
Ethernet0/0	current-interface((0.0.0.0)	15507	192.168.1.2	15507	TCP
Ethernet0/0	current-interface((0.0.0.0)	9080	192.168.1.2	9080	TCP
Ethernet0/0	current-interface((0.0.0.0)	9090	192.168.1.2	9090	TCP
Ethernet0/0	current-interface((0.0.0.0)	9050	192.168.1.7	9050	UDP

Note: Camera port (default: 80) and stream port (default: 6002) for accessing cameras should be opened while VMS/NVR Server and the cameras and are not in the same LAN.

Chapter 4. Installation

4.1. Before You Start

4.1.1. Checklist for Operating Environment

Users need to prepare the following devices to set up the surveillance system.

Network Video Recorder	SMR series
IP Camera	Network Cameras (such as CAM2320)
Network	Existing LAN, Switch, Router or Hub (please see the Network Topology below)
Storage	Hard Drives

Note: The hard drives should be purchased separately.

4.1.2. Checklist for Network Topology

Make sure you have the right switch/hub for your environment. Either of the following options will work.

	Common Topology	Reference Product
Existing LAN	LAN Switch with DHCP Server	Office LAN
Router	LAN Switch with build-in DHCP Server	D-Link DIR-130
Switch/Hub	No DHCP Server(refer to the Note below)	D-Link DES-1108

Note: For devices without DHCP Server function, please refer to Configuring DHCP Service Section.

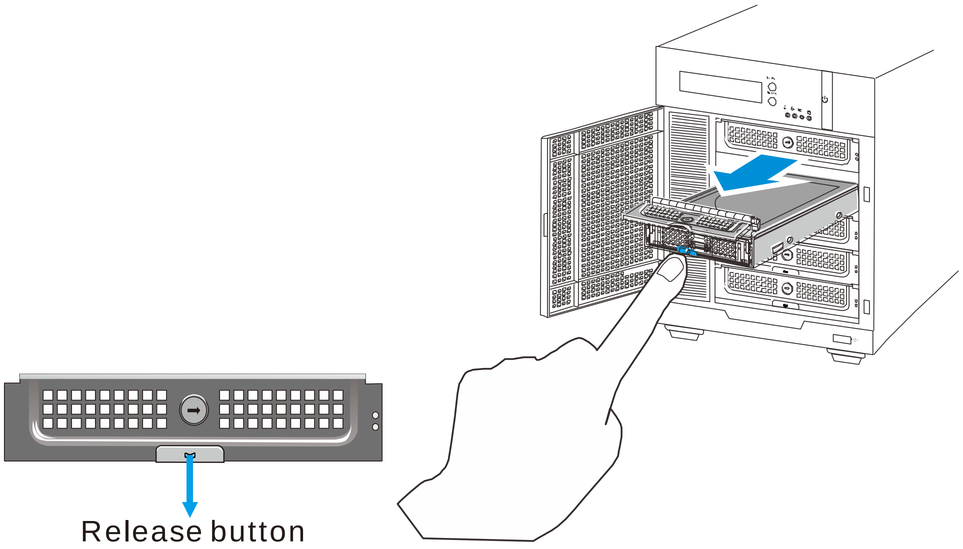
4.2. Hard Drive Installation

4.2.1. Hard Drive Installation Prerequisites

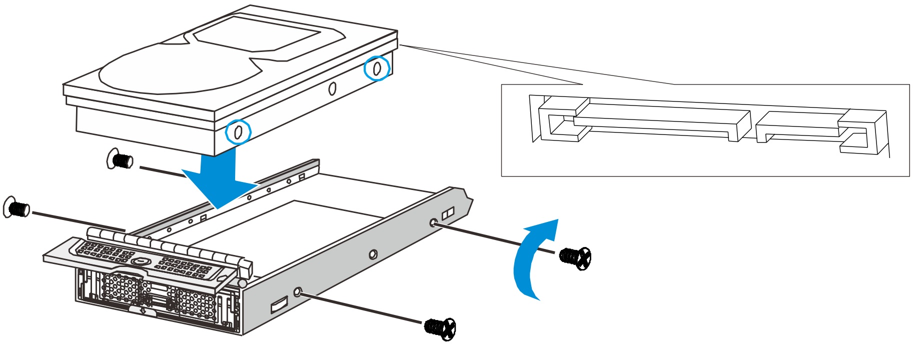
Purchase hard drives having the same capacity and using same interface with the pre-installed ones.

4.2.2. Inserting Hard Drive into Drive Tray (Desktop Series)

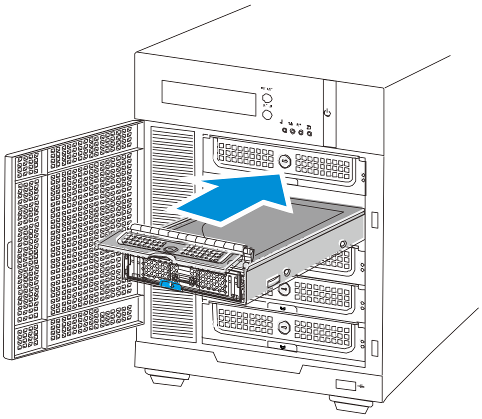
1. Open the front panel of the SMR system.
2. Press the release button (indicated by the blue arrow) on the bezel, the bezel panel should open automatically and gently pull out the hard drive tray.



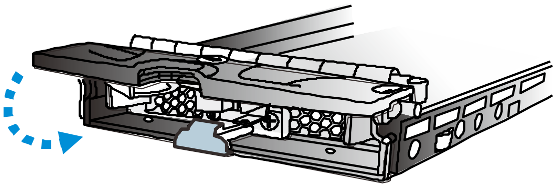
3. Place the hard drive into the drive tray. Make sure the hard drive's interface connector is facing the open side of the drive tray and its label side facing up. Adjust the drive's location until the mounting holes in the drive tray are aligned with those on the hard drive. Secure the drive with four supplied flat head screws.



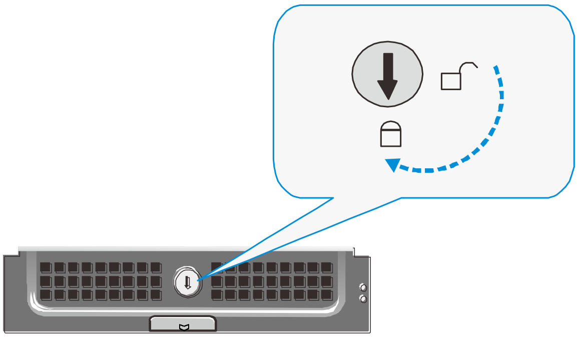
4. With the tray bezel open, insert the hard drive and tray into the system enclosure.



5. Close the tray bezel.



6. Use the small flat blade screwdriver to turn the bezel lock from the unlock to lock position.

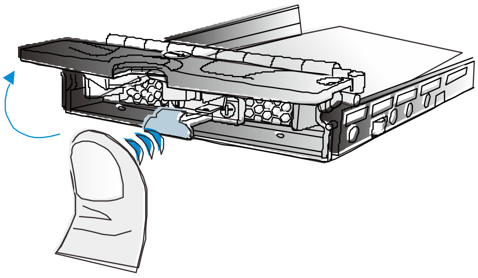


7. Repeat above steps to install other hard drives.

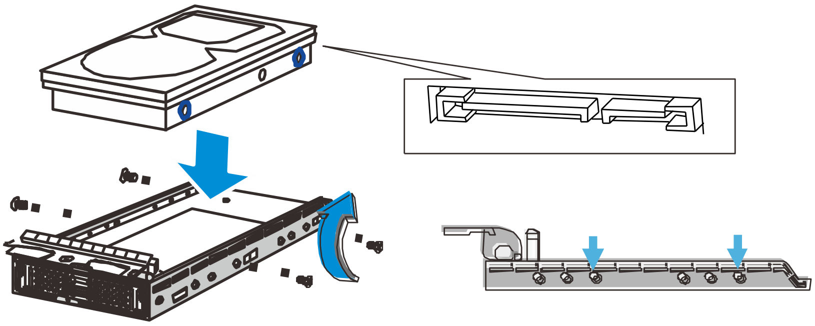
8. Close the system front panel when you are done installing hard drives.

4.2.3. Inserting Hard Drive into Drive Tray (Rackmount Series)

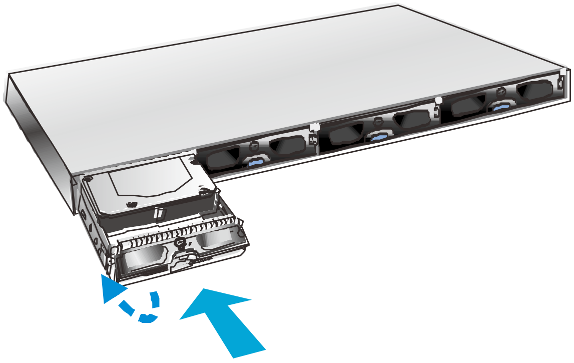
1. Remove the tray from the enclosure, press the release button and gently pull out the tray.



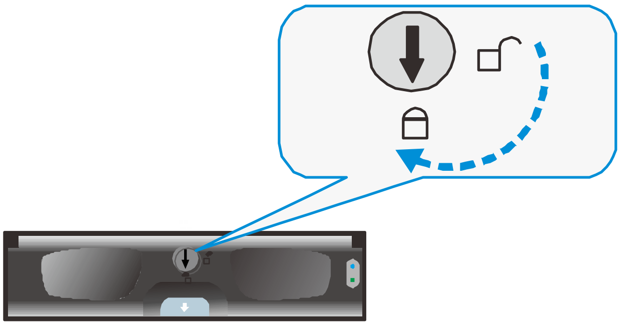
2. Place the hard drive into the drive tray. Make sure the hard drive's interface connector is facing the open side of the drive tray and its label side facing up. Align the drive and the mounting holes on the tray.



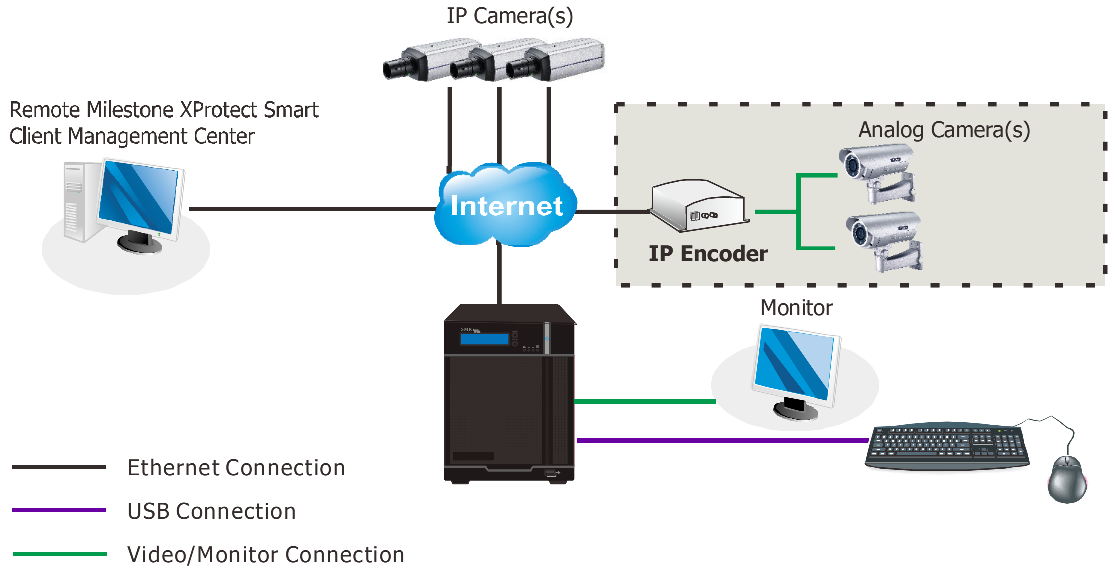
3. With the tray bezel open, insert the installed hard drive and tray into the enclosure. Once inserted, close the tray bezel.



4. Use a small flathead screwdriver to rotate the tray bezel lock from the unlock position to the lock position.



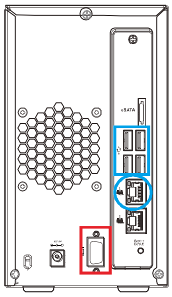
4.3. System Connections



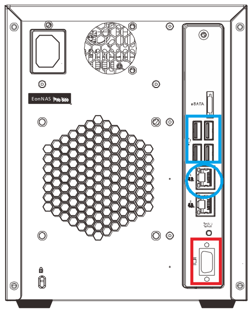
Note: Shaded areas are optional devices.

Connect cables to the rear panel ports as follows:

SMR2000 Series

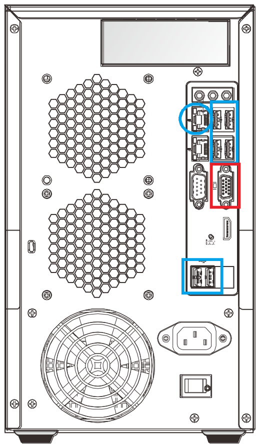


SMR5000 Series

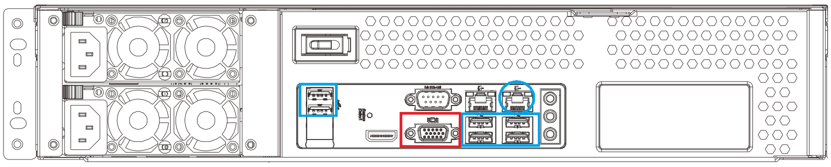


SMR6000H/

8000 Series



SMR8000U Series



- Insert mouse, keyboard or other external devices to the USB port (blue rectangles) for operating the Video Management Software (VMS).
- Insert the LAN cable to the upper LAN port (blue circles) to connect the SMR to a local network where your IP cameras reside.

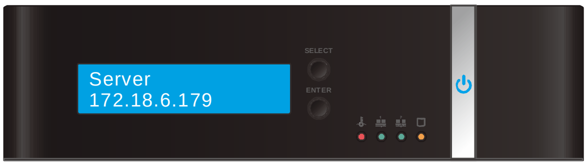
(Connection to analog cameras is also available via an IP encoder.)

- Connect an external monitor capable of 32bit or higher color quality to the VGA Port (red rectangles) to view the VMS interface.

4.4. Powering up SMR

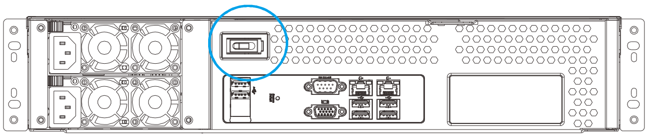
4.4.1. SMR Desktop Systems

1. Attach the power cable to the power socket on the rear panel.
2. (SMR6000H/8000 Series) Make sure the safety switch on the rear panel is switched to the "-" side, which means that it is turned on.
3. Press the Power Switch.
4. See if the System LED is blinking, which means the system is starting up.
5. See if the Network LED has turned green, which indicates power is on and network is connected.
6. See if the HDD LED is on, which means the hard drive can be accessed.
7. (SMR5000/6000H/8000 series) The Server name and the IP address will be shown on the LCD screen.



4.4.2. SMR Rackmount Systems

1. Press the Power Switch and a beep sound should follow.



2. When powered on, the service LED should remain off while the rest of the status LEDs on the front panel should light up green to indicate normal operation.

Service LED: Off

Power LED: Green

Cooling fan LED: Green

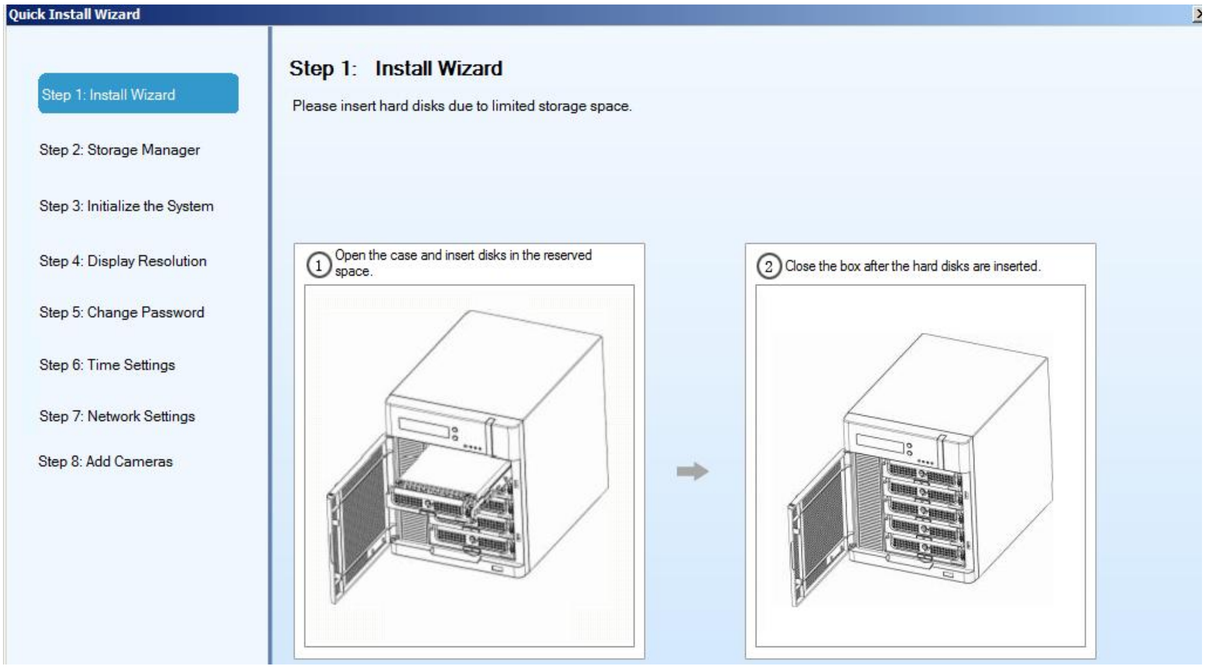
Thermal LED: Green

System fault LED: Green

4.5. Install Wizard

When you run the SMR series for the first time, you need to go through the following steps within the Quick Install Wizard after logging in.

1. Make sure the hard drives are inserted into the SMR case. Click **Next** to continue.



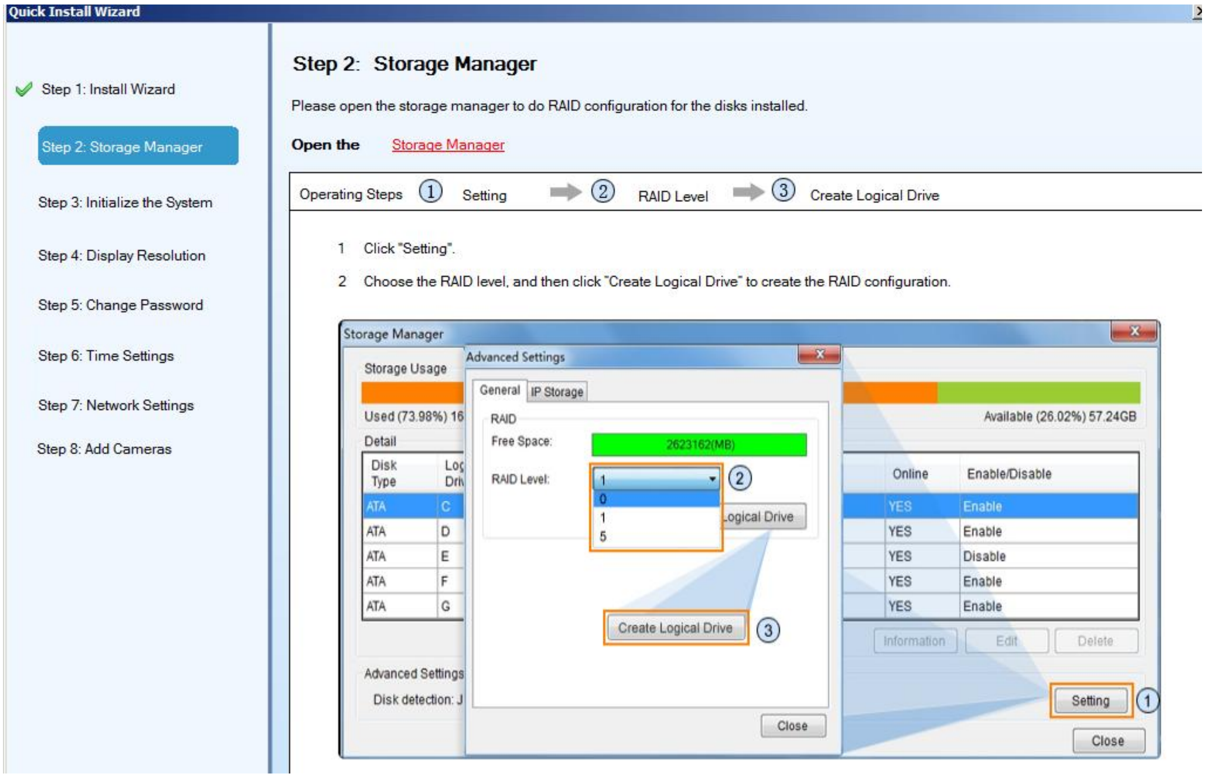
Step 1: Install Wizard

Please insert hard disks due to limited storage space.

① Open the case and insert disks in the reserved space.

② Close the box after the hard disks are inserted.

2. Click **Storage Manager** to do RAID configuration.



Step 2: Storage Manager

Please open the storage manager to do RAID configuration for the disks installed.

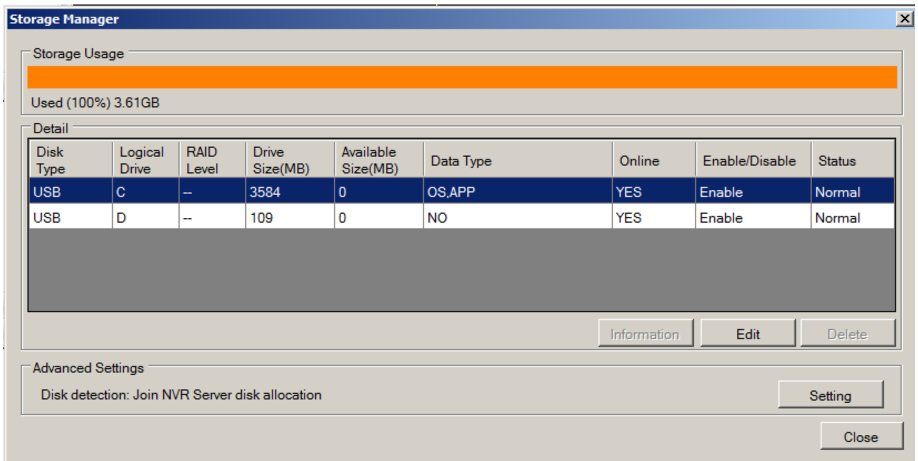
Open the Storage Manager

Operating Steps ① Setting ② RAID Level ③ Create Logical Drive

1 Click "Setting".

2 Choose the RAID level, and then click "Create Logical Drive" to create the RAID configuration.

Click **Setting,** choose the RAID level in the *Advanced Settings* dialogue, and then click **Create Logical Drive** to create the RAID configuration.

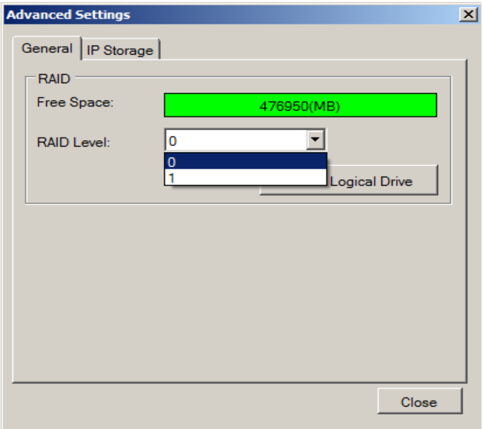


Used (100%) 3.61GB

Detail

Disk Type	Logical Drive	RAID Level	Drive Size(MB)	Available Size(MB)	Data Type	Online	Enable/Disable	Status
USB	C	--	3584	0	OS,APP	YES	Enable	Normal
USB	D	--	109	0	NO	YES	Enable	Normal

Disk detection: Join NVR Server disk allocation



Free Space: 476950(MB)

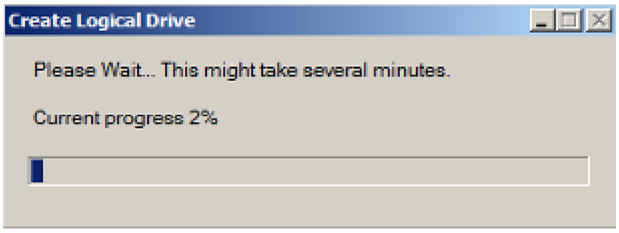
RAID Level: 0

WARNING

All hard disk data will be erased.

These are the RAID options for SMR models.

Minimum Hard Drives	RAID Options	Descriptions
2	RAID0	Provides no protection, but offers maximum capacity.
2	RAID1	Provides best protection. Your data will be mirrored.
3	RAID5	Provides protection against one drive failure.

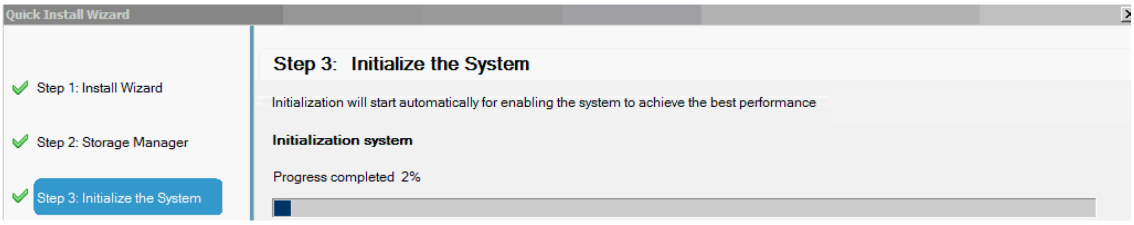


Please Wait... This might take several minutes.

Current progress 2%

Please click **OK** after the configuration is done, and the system will reboot automatically. About 2 minutes later, the Wizard window will appear again. Click **Next** to continue.

3. System initialization will start.



Step 3: Initialize the System

Initialization will start automatically for enabling the system to achieve the best performance

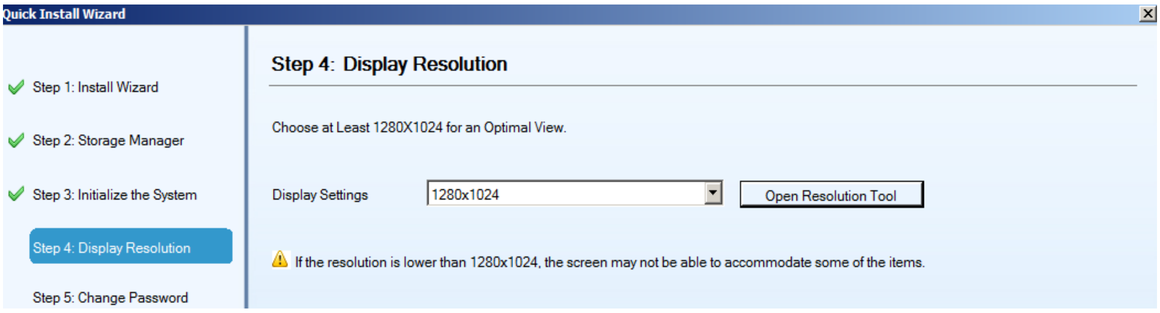
Initialization system

Progress completed 2%

The system will shut down after the initialization is done successfully. Please click **OK**.

Press the power switch to restart the system. About 1.5 minutes later, the Wizard window will pop up again.

4. The recommended monitor resolution for the SMR is 1280x1024. Click **Open Resolution Tool** to change the resolution setting.



Step 4: Display Resolution

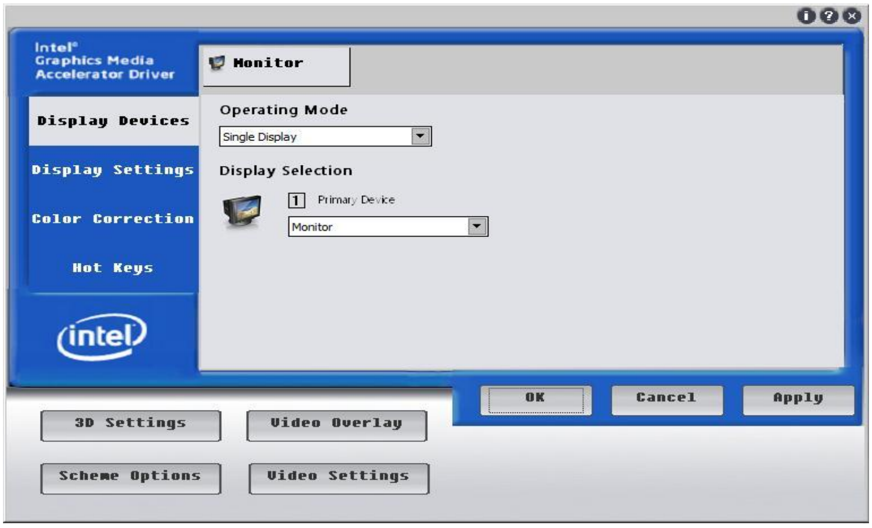
Choose at Least 1280X1024 for an Optimal View.

Display Settings: 1280x1024

If the resolution is lower than 1280x1024, the screen may not be able to accommodate some of the items.

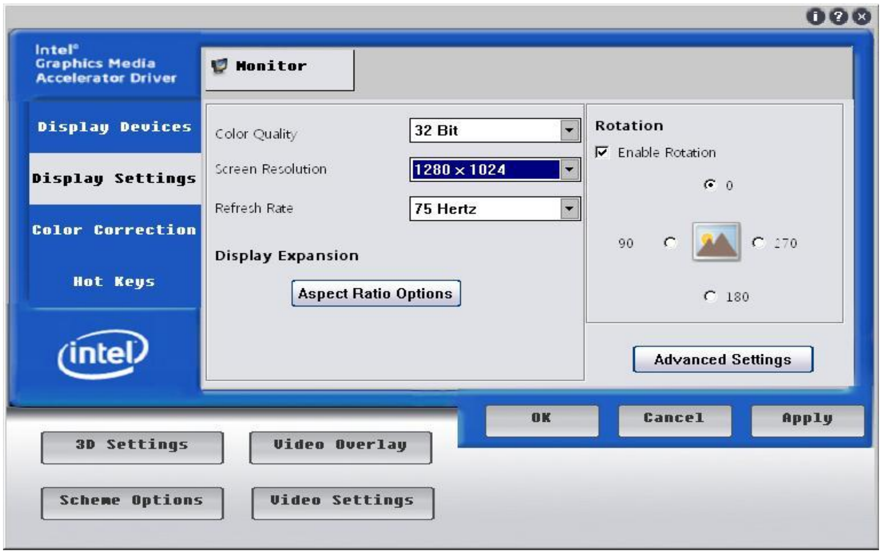
Choose **Single Display** as the operating mode and **Monitor** as the display selection in **Primary Device**. Change the screen resolution in **Display Settings**. Click **OK** to finish.

Note: SMR8000 series support dual monitor display.



Operating Mode: Single Display

Display Selection: 1 Primary Device: Monitor



Color Quality: 32 Bit

Screen Resolution: 1280 x 1024

Refresh Rate: 75 Hertz

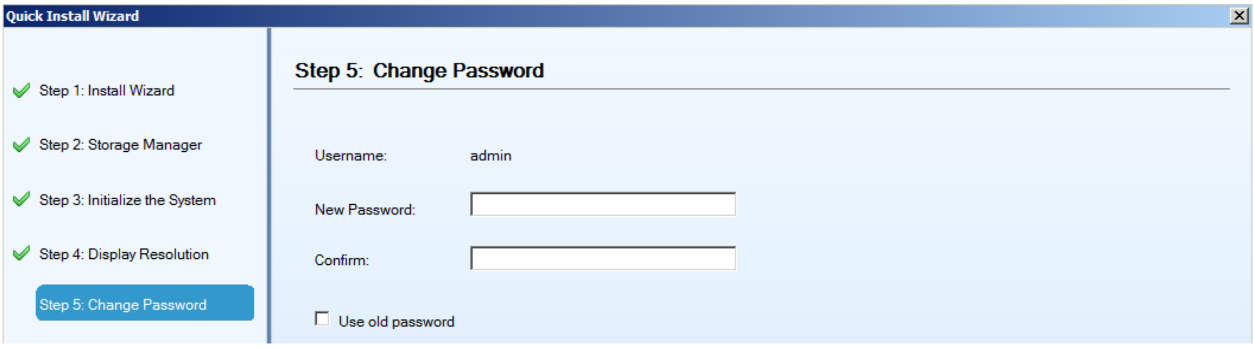
Rotation

☑ Enable Rotation

● 0 ○ 90 ○ 270 ○ 180

Click **Next** to continue.

5. The default password for SMR login is *admin*. If you want to change the password, please enter a new one in both the blanks of **New Password** and **Confirm**.


Quick Install Wizard
✓ Step 1: Install Wizard
✓ Step 2: Storage Manager
✓ Step 3: Initialize the System
✓ Step 4: Display Resolution
Step 5: Change Password

Step 5: Change Password

Username: admin

New Password:

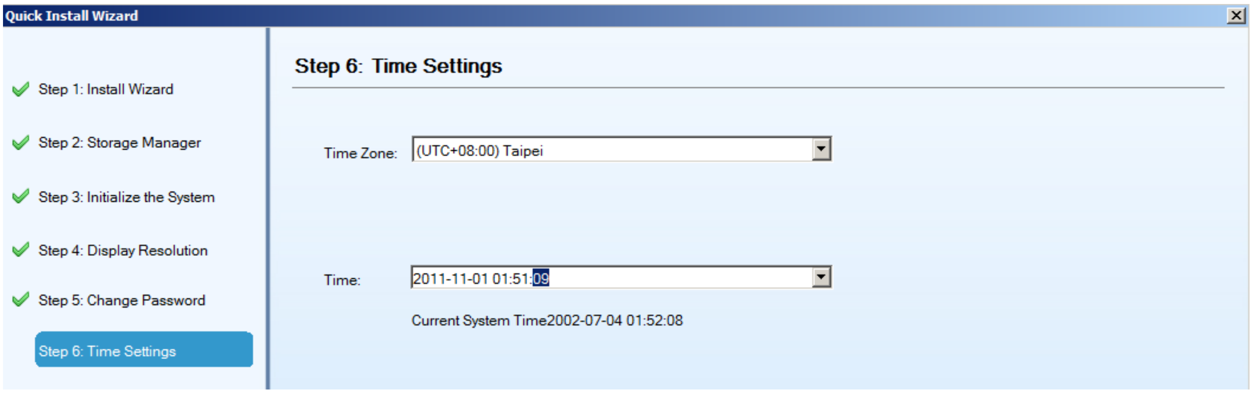
Confirm:

□ Use old password

If you want to keep using the default password, please tick **Use old password.**

Click **Next** to continue.

6. Choose the time zone and set the actual date and time for the SMR system.

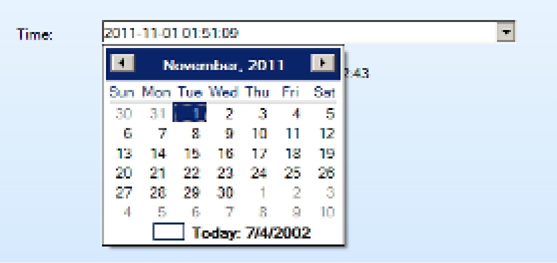


Step 6: Time Settings

Time Zone: (UTC+08:00) Taipei

Time: 2011-11-01 01:51:09

Current System Time2002-07-04 01:52:08



Time: 2011-11-01 01:51:09

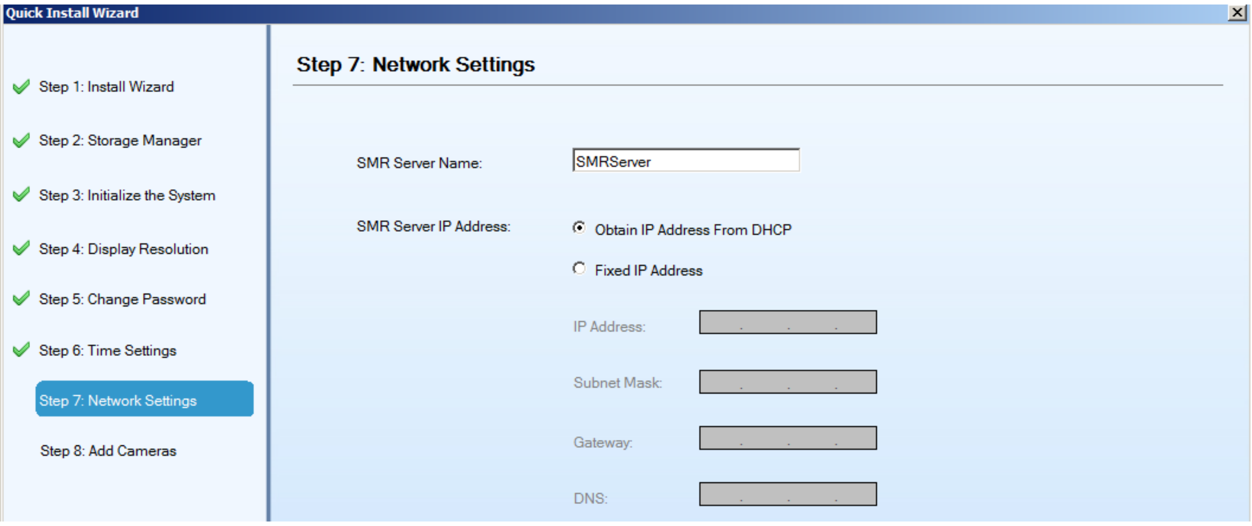
November, 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10

Today: 7/4/2002

Click **Next** to continue.

7. Set an IP address for the SMR Server. Obtaining the IP address from DHCP is recommended.



Step 7: Network Settings

SMR Server Name: SMRServer

SMR Server IP Address: ● Obtain IP Address From DHCP ○ Fixed IP Address

IP Address: . . .

Subnet Mask: . . .

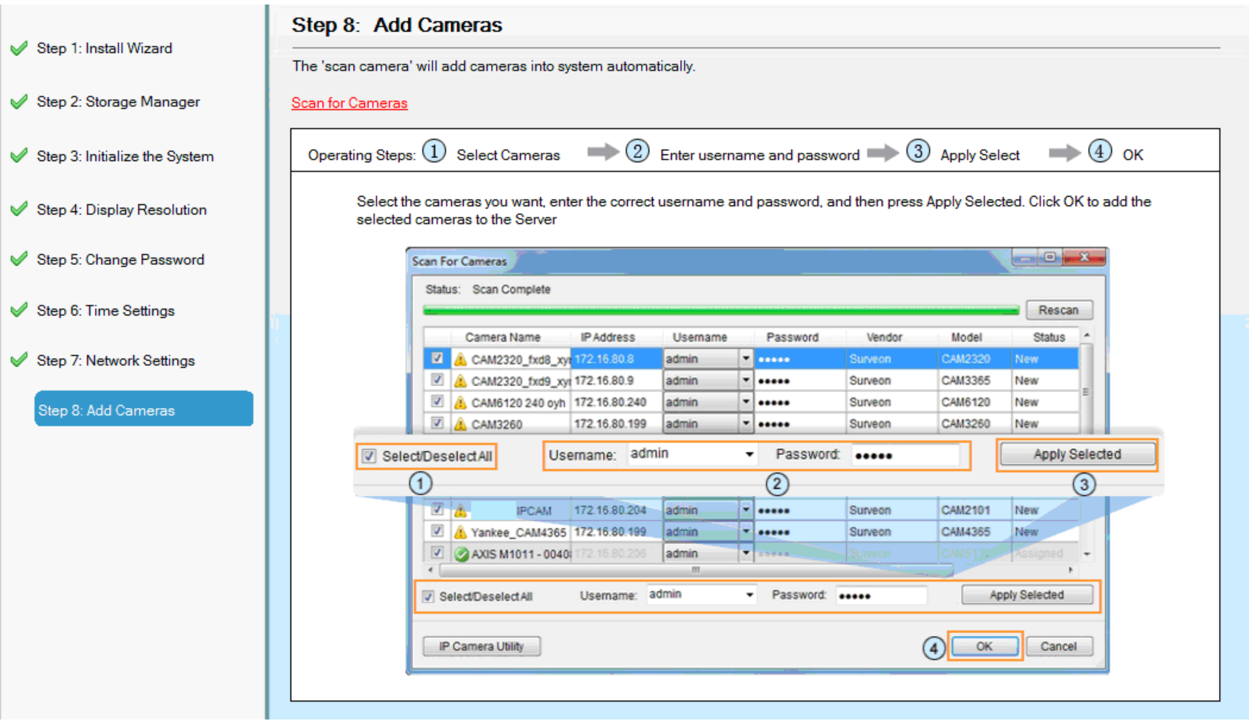
Gateway: . . .

DNS: . . .

The IP will change after the system is restarted.

Click **Next** to continue.

8. Click **Scan for Cameras** to add cameras to the SMR server.



✓ Step 1: Install Wizard
✓ Step 2: Storage Manager
✓ Step 3: Initialize the System
✓ Step 4: Display Resolution
✓ Step 5: Change Password
✓ Step 6: Time Settings
✓ Step 7: Network Settings
Step 8: Add Cameras

Step 8: Add Cameras

The 'scan camera' will add cameras into system automatically.

Scan for Cameras

Operating Steps: ① Select Cameras ➡ ② Enter username and password ➡ ③ Apply Select ➡ ④ OK

Select the cameras you want, enter the correct username and password, and then press Apply Selected. Click OK to add the selected cameras to the Server

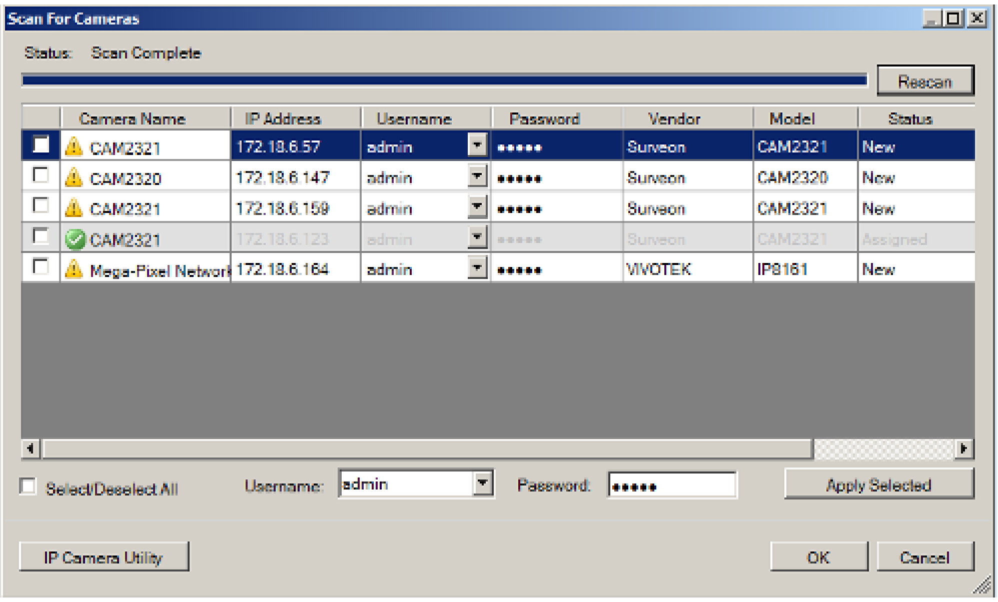
Status: Scan Complete

	Camera Name	IP Address	Username	Password	Vendor	Model	Status
☑	CAM2320_fxd8_xyı	172.16.80.8	admin	●●●●●	Surveon	CAM2320	New
☑	CAM2320_fxd9_xyı	172.16.80.9	admin	●●●●●	Surveon	CAM3365	New
☑	CAM6120 240 oyh	172.16.80.240	admin	●●●●●	Surveon	CAM6120	New
☑	CAM3260	172.16.80.199	admin	●●●●●	Surveon	CAM3260	New
☑	IPCAM	172.16.80.204	admin	●●●●●	Surveon	CAM2101	New
☑	Yankee_CAM4365	172.16.80.199	admin	●●●●●	Surveon	CAM4365	New
☑	AXIS M1011 - 0040	172.16.80.206	admin	●●●●●	Surveon	CAM5130	Assigned

☑ Select/Deselect All ① Username: admin ② Password: ●●●●● Apply Selected ③

The cameras that can be added to the Server will be displayed.

To add a camera to the system, check the box by the camera entry. You may also check the **Select All** box at the bottom of the window to select all the cameras found.



Status: Scan Complete

	Camera Name	IP Address	Username	Password	Vendor	Model	Status
□	CAM2321	172.18.6.57	admin	●●●●●	Surveon	CAM2321	New
□	CAM2320	172.18.6.147	admin	●●●●●	Surveon	CAM2320	New
□	CAM2321	172.18.6.159	admin	●●●●●	Surveon	CAM2321	New
□	CAM2321	172.18.6.123	admin	●●●●●	Surveon	CAM2321	Assigned
□	Mega-Pixel Networl	172.18.6.164	admin	●●●●●	VIVOTEK	IP8161	New

□ Select/Deselect All Username: admin Password: ●●●●● Apply Selected

Enter the username and password, and press **Apply Selected**. Click **OK** to add the selected cameras to the Server.

8. Click **Finish** to end the wizard.

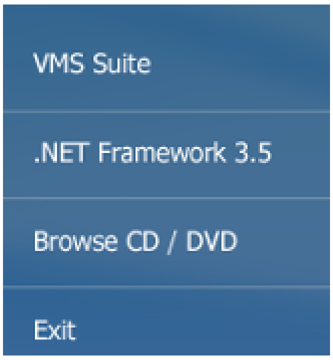
9. The VMS will start automatically after the wizard is finished.

4.6. Software Installation

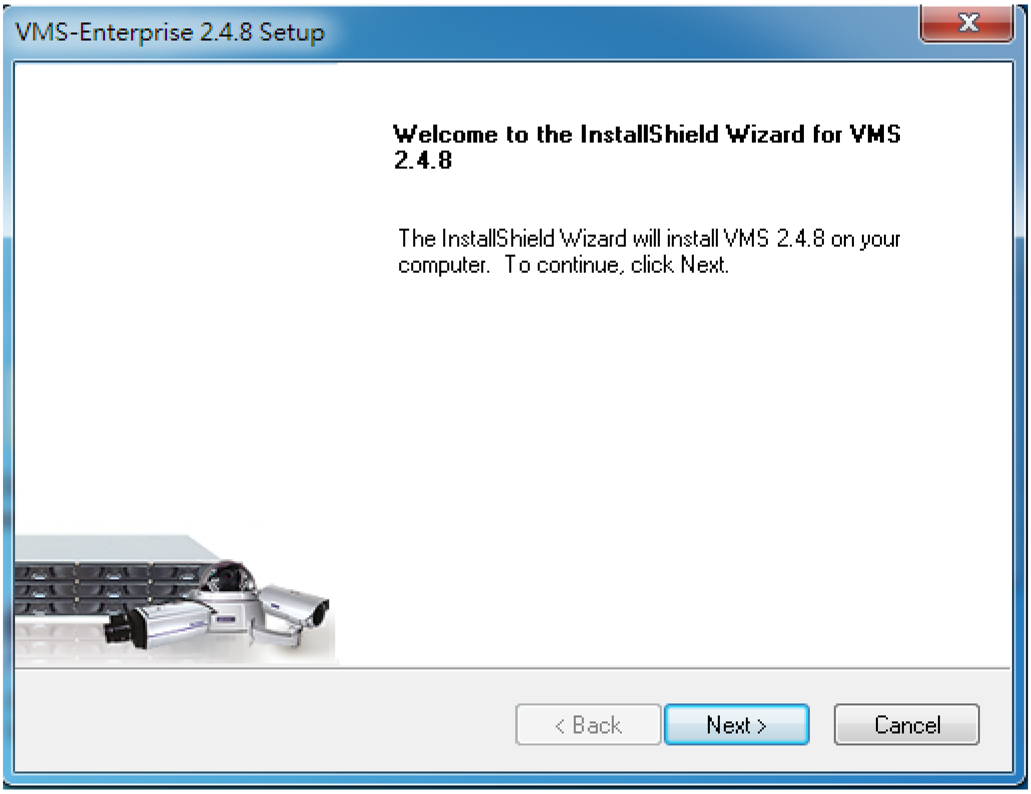
4.6.1. Installing the VMS

Note: For NVR2000/SMR series, users have to install VMS Client on remote PC(s) when distant live viewing and playback are needed.

1. Insert the VMS/IPCAM CD-ROM. The CD should autorun. If it does not, open the CD manually and double-click **autorun.exe**. The menu below will be displayed.



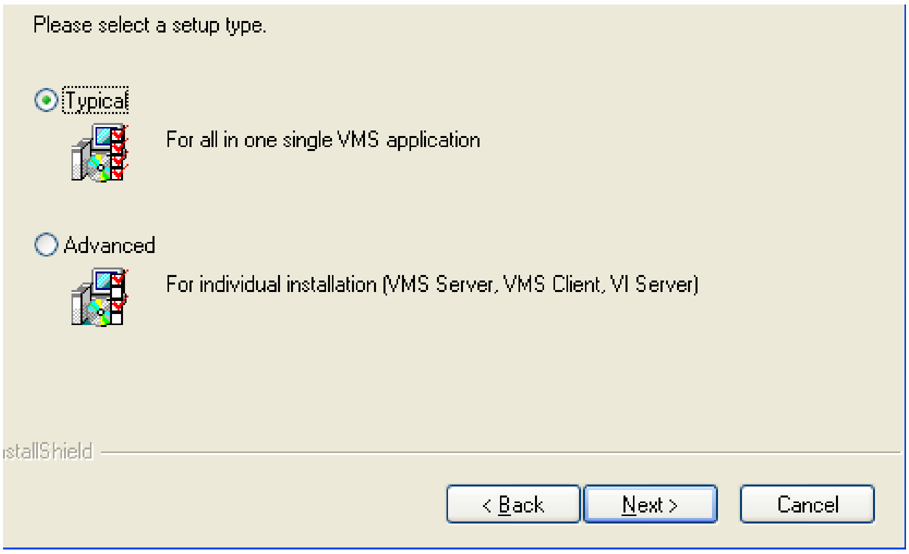
Click **VMS Suite** to start the installation.


VMS-Enterprise 2.4.8 Setup

Welcome to the InstallShield Wizard for VMS 2.4.8

The InstallShield Wizard will install VMS 2.4.8 on your computer. To continue, click Next.

2. Choose a setup type from *Typical* and *Advanced*. Then Click **Next** when you are satisfied with your selection.



Please select a setup type.

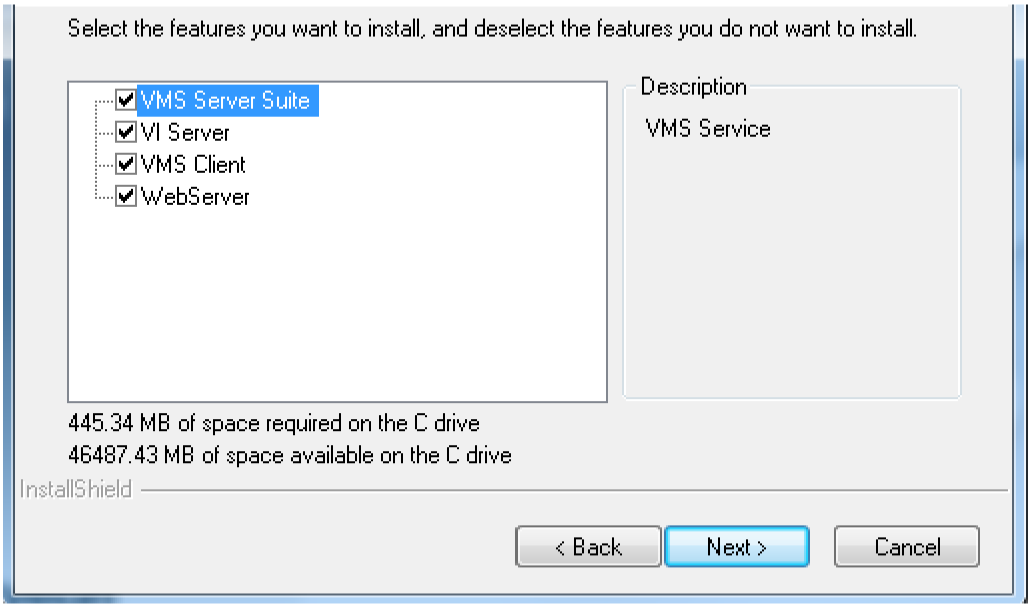
● Typical

For all in one single VMS application

○ Advanced

For individual installation (VMS Server, VMS Client, VI Server)

3. You may choose to install among the following while *Advanced Setup Type* is selected:



Select the features you want to install, and deselect the features you do not want to install.

☑ VMS Server Suite
☑ VI Server
☑ VMS Client
☑ WebServer

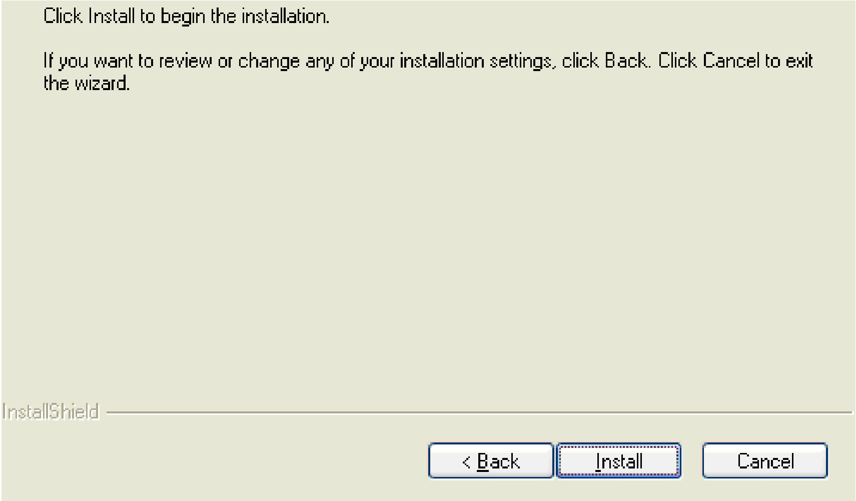
Description

VMS Service

445.34 MB of space required on the C drive
46487.43 MB of space available on the C drive

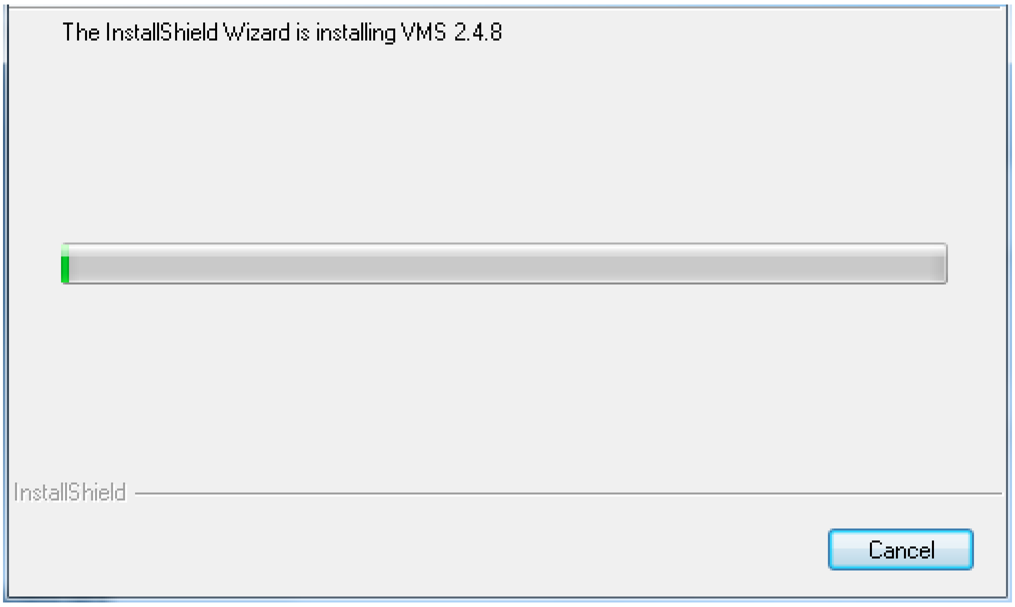
- **VMS Server Suite** – Includes the VMS Server and Local Domain Server, VI Server and VMS Client.
- **VI Server**
- **VMS Client**
- **Web Server**

4. The confirmation screen will display. Click **Install**. A progress bar will display, indicating installation progress.



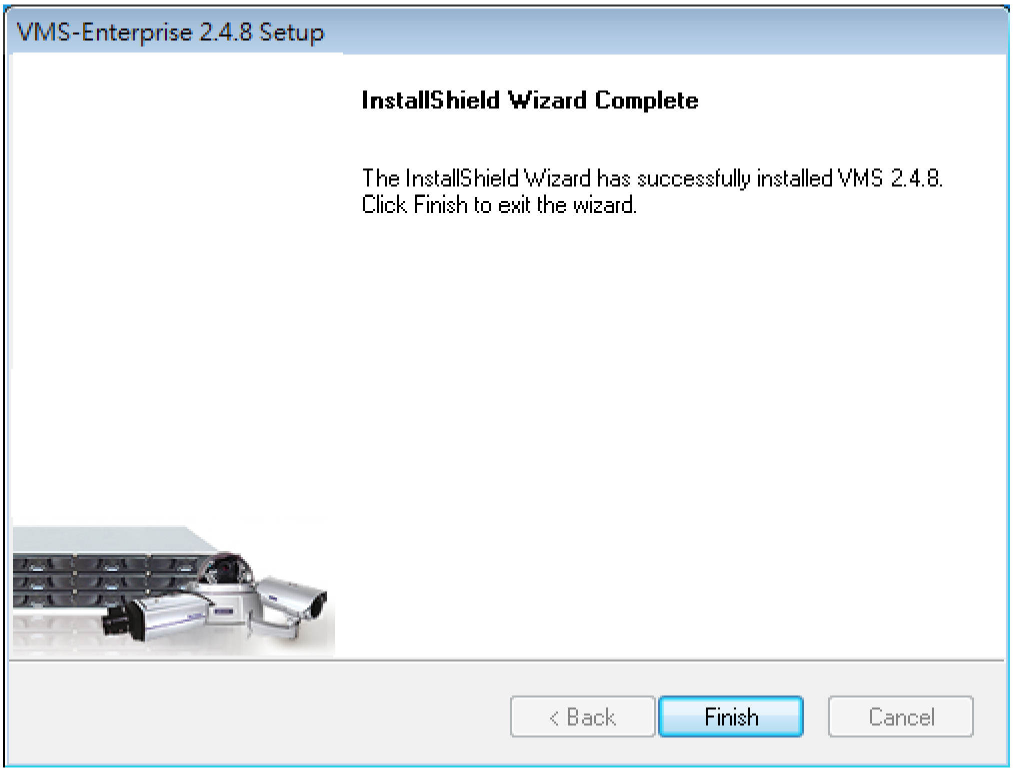
Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.



The InstallShield Wizard is installing VMS 2.4.8

5. When installation is finished, an informational screen will display. Click **Finish** to complete installation.

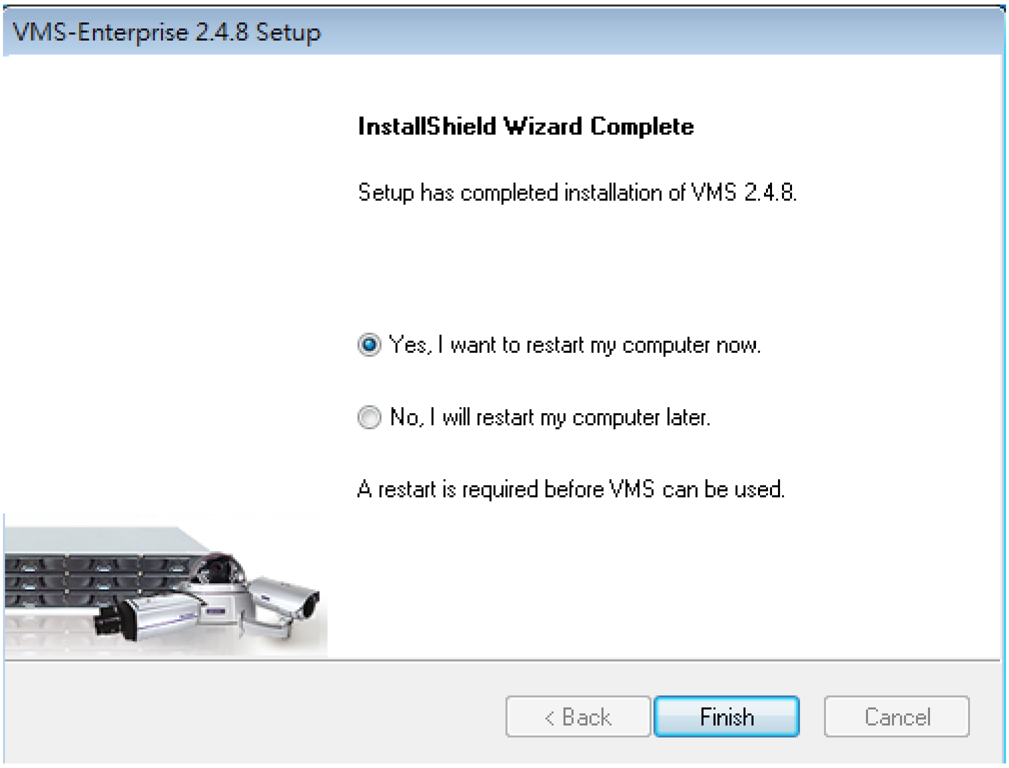


VMS-Enterprise 2.4.8 Setup

InstallShield Wizard Complete

The InstallShield Wizard has successfully installed VMS 2.4.8. Click Finish to exit the wizard.

6. The system will prompt for a restart. A restart is required before the VMS will function correctly. You may choose to immediately automatically restart your computer, or restart your computer later. Clicking **Finish** will apply your choice.



VMS-Enterprise 2.4.8 Setup

InstallShield Wizard Complete

Setup has completed installation of VMS 2.4.8.

● Yes, I want to restart my computer now.

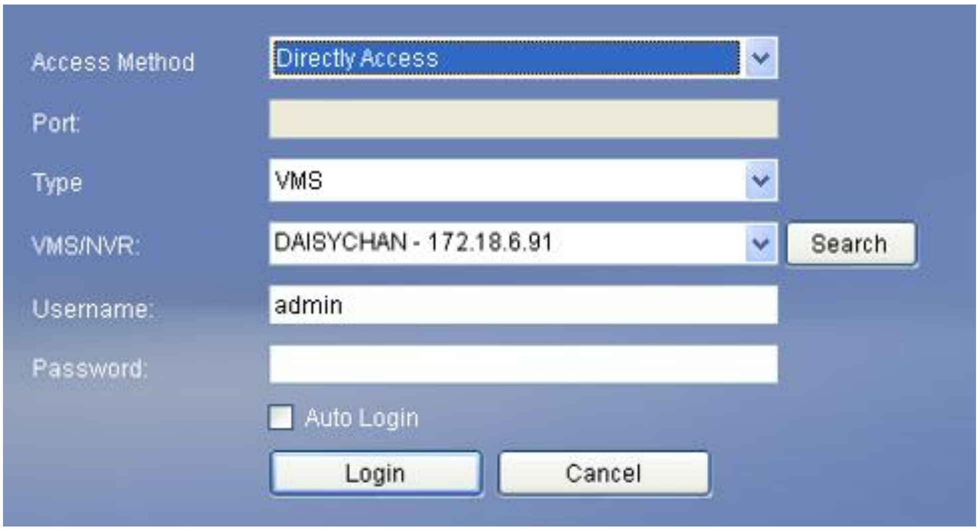
○ No, I will restart my computer later.

A restart is required before VMS can be used.

4.7. Starting the VMS Client

To start the software, click **Programs** > **VMS Suite** > **VMS Client** under the Windows **Start** menu.

The software will prompt for the following information:



Access Method: Directly Access

Port:

Type: VMS

VMS/NVR: DAISYCHAN - 172.18.6.91

Username: admin

Password:

□ Auto Login

- **Access Method** – Directly Access or Internet Port Forward.
- **Type -** Choose VMS.
- **Server** – The IP address for the VMS/NVR Server. You can click **Search** button to obtain it. For users of port forwarding, it should be the IP address of the router.
- **Port -** The Login Port for port forwarding - 9050. It should be set under ***Server*** > ***Other Tasks*** > ***Port Mapping*** after the first login.

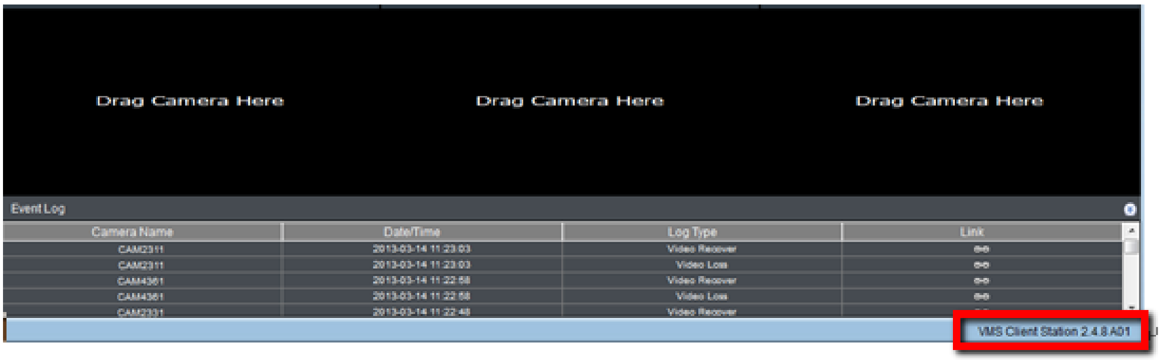
Note: (1) Please refer to *Port Forwarding Section* for more details. (2) SCC does not support port forwarding functionalities.

- **Username** – The username for the domain, **which is always *admin*.**
- **Password** – The password for the domain. **Default password is *admin*.**

Click **Login** after the password (and port number) is entered.

4.7.1. Checking the Software Version

Users can see the software version at the lower right corner of the window after logging in.



Camera Name	Date/Time	Log Type	Link
CAM2311	2013-03-14 11:23:03	Video Recover	⚯
CAM2311	2013-03-14 11:23:03	Video Loss	⚯
CAM4361	2013-03-14 11:22:58	Video Recover	⚯
CAM4361	2013-03-14 11:22:58	Video Loss	⚯
CAM2331	2013-03-14 11:22:48	Video Recover	

VMS Client Station 2.4.8 A01

4.7.2. Logging out

The Client can be logged out of all the Servers configured on the system by pressing the **Logout** button on the upper right hand corner in the GUI. Logging out of individual servers can be achieved by double clicking the server entry and clicking the **Yes** button on the confirmation screen.

Closing the window using the **X** button on the top right corner will exit the Client. A confirmation screen will appear, click **Yes** to exit the system.

Note: (1) If the system becomes unresponsive, users can force shutdown the system (press and hold the power until the system shuts down). This should only be done when the system is unresponsive!

Chapter 5. Reinstallation

5.1. Reset RAID

The actions of reset RAID (to change the RAID type or clear video data in the RAID) and reset the whole system (to reinstall the OS) would require a reinstallation on your SMR.

Note: (1) RAID from other vendors is not compatible.

(2) Make sure the deploying disks are NON-RAID and unformatted before reinstallation.

(3) Reinstallation functionality is for SMR2000/4000U/5000/6000H only.

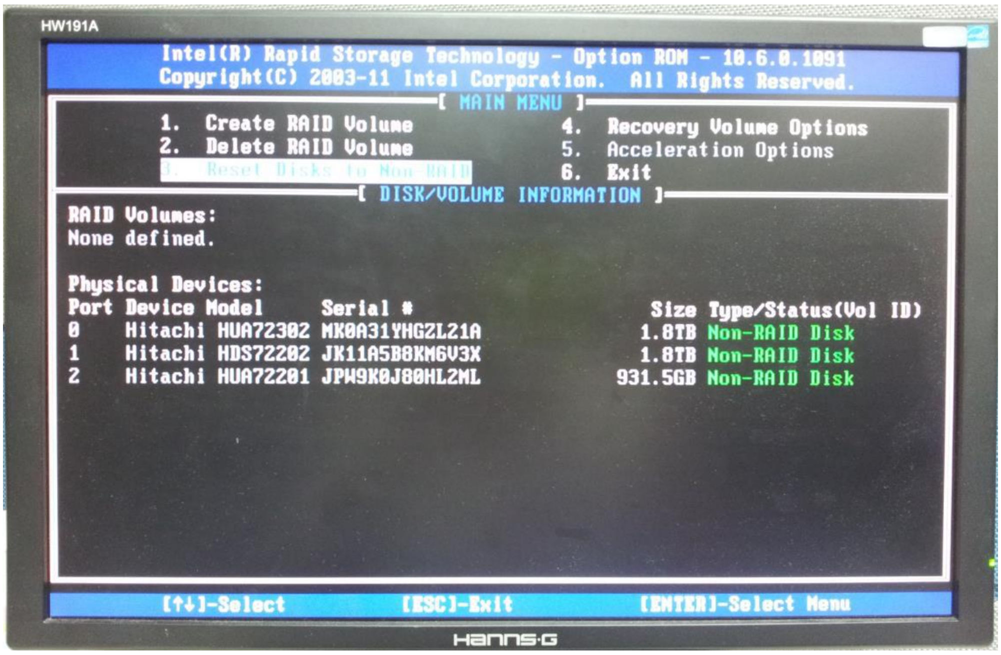
(4) SMR8000 and NRV21000 do not support OS reinstallation.

Steps to rest RAID:

1. Press “Ctrl + l” to enter the RAID bios to boot up SMR.

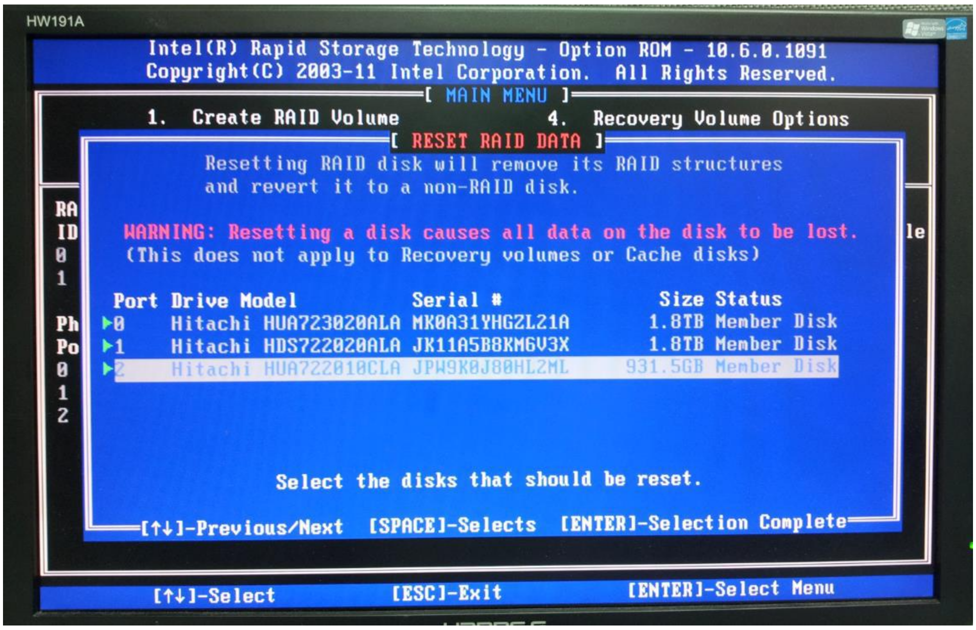
Note: RAID bios window will appear after pressing “Ctrl + l”.

2. Select “3. Reset Disk to NON-RAID” and then press “Enter”.



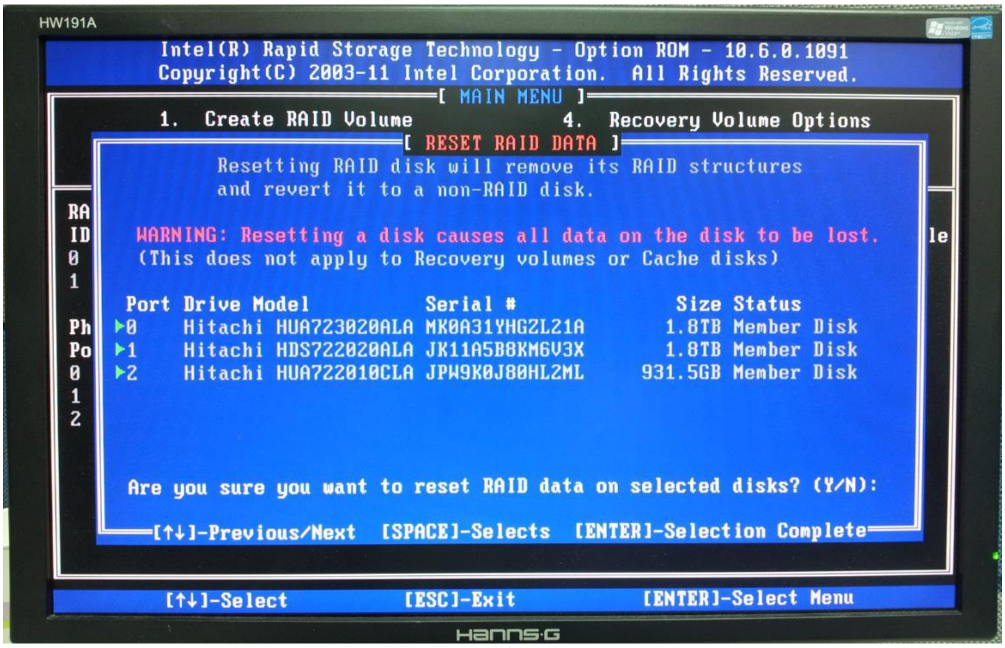
```
HW191A
        Intel(R) Rapid Storage Technology - Option ROM - 10.6.0.1091
        Copyright(C) 2003-11 Intel Corporation.  All Rights Reserved.
=======================[ MAIN MENU ]=======================
        1.  Create RAID Volume            4.  Recovery Volume Options
        2.  Delete RAID Volume            5.  Acceleration Options
        3.  Reset Disks to Non-RAID       6.  Exit
=================[ DISK/VOLUME INFORMATION ]=================
RAID Volumes:
None defined.

Physical Devices:
Port Device Model     Serial #                  Size Type/Status(Vol ID)
0    Hitachi HUA72302 MK0A31YHGZL21A          1.8TB Non-RAID Disk
1    Hitachi HDS72202 JK11A5B8KM6V3X          1.8TB Non-RAID Disk
2    Hitachi HUA72201 JPW9K0J80HL2ML        931.5GB Non-RAID Disk

        [↑↓]-Select        [ESC]-Exit        [ENTER]-Select Menu
                              Hanns·G
```

3. Use the space bar on your keyboard to select the hard disk drives you’d like to reset.



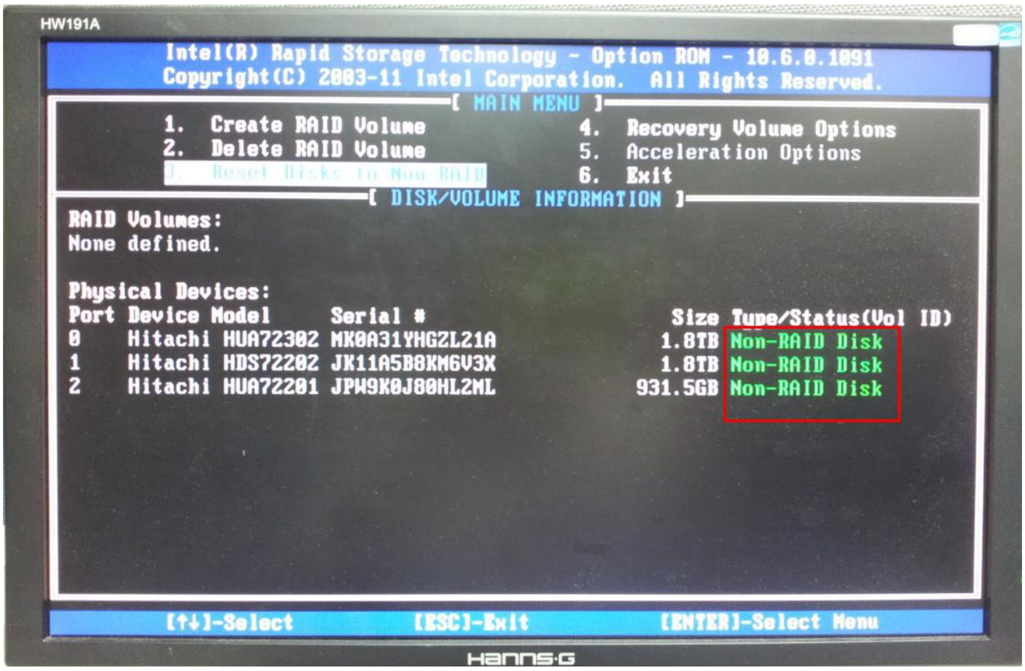
```
Intel(R) Rapid Storage Technology - Option ROM - 10.6.0.1091
Copyright(C) 2003-11 Intel Corporation.  All Rights Reserved.
                         [ MAIN MENU ]
   1.  Create RAID Volume            4.  Recovery Volume Options
                      [ RESET RAID DATA ]
        Resetting RAID disk will remove its RAID structures
        and revert it to a non-RAID disk.

   WARNING: Resetting a disk causes all data on the disk to be lost.
   (This does not apply to Recovery volumes or Cache disks)

  Port Drive Model           Serial #              Size Status
  ▸0    Hitachi HUA723020ALA MK0A31YHGZL21A       1.8TB Member Disk
  ▸1    Hitachi HDS722020ALA JK11A5B8KM6V3X       1.8TB Member Disk
  ▸2    Hitachi HUA722010CLA JPW9K0J80HL2ML     931.5GB Member Disk

              Select the disks that should be reset.
  [↑↓]-Previous/Next  [SPACE]-Selects  [ENTER]-Selection Complete

      [↑↓]-Select            [ESC]-Exit            [ENTER]-Select Menu
```

4. Once selected, press “Enter” and type “Y” to confirm and reset the selected hard disk drive to NON-RAID.



```
Intel(R) Rapid Storage Technology - Option ROM - 10.6.0.1091
Copyright(C) 2003-11 Intel Corporation.  All Rights Reserved.
                         [ MAIN MENU ]
   1.  Create RAID Volume            4.  Recovery Volume Options
                      [ RESET RAID DATA ]
        Resetting RAID disk will remove its RAID structures
        and revert it to a non-RAID disk.

   WARNING: Resetting a disk causes all data on the disk to be lost.
   (This does not apply to Recovery volumes or Cache disks)

  Port Drive Model           Serial #              Size Status
  ▸0    Hitachi HUA723020ALA MK0A31YHGZL21A       1.8TB Member Disk
  ▸1    Hitachi HDS722020ALA JK11A5B8KM6V3X       1.8TB Member Disk
  ▸2    Hitachi HUA722010CLA JPW9K0J80HL2ML     931.5GB Member Disk

  Are you sure you want to reset RAID data on selected disks? (Y/N):
  [↑↓]-Previous/Next  [SPACE]-Selects  [ENTER]-Selection Complete

      [↑↓]-Select            [ESC]-Exit            [ENTER]-Select Menu
```

Once the reset is done, the hard disk drive will appear as NON-RAID Disk.

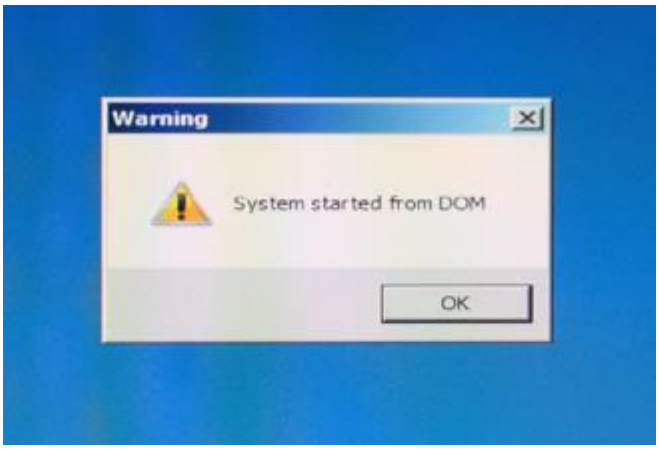


```
        Intel(R) Rapid Storage Technology - Option ROM - 10.6.0.1091
        Copyright(C) 2003-11 Intel Corporation.  All Rights Reserved.
                              [ MAIN MENU ]
        1.  Create RAID Volume                4.  Recovery Volume Options
        2.  Delete RAID Volume                5.  Acceleration Options
        3.  Reset Disks to Non-RAID           6.  Exit
                      [ DISK/VOLUME INFORMATION ]
RAID Volumes:
None defined.

Physical Devices:
Port Device Model      Serial #                    Size Type/Status(Vol ID)
0    Hitachi HUA72302 MK0A31YHGZL21A              1.8TB Non-RAID Disk
1    Hitachi HDS72202 JK11A5B8KM6V3X              1.8TB Non-RAID Disk
2    Hitachi HUA72201 JPW9K0J80HL2ML            931.5GB Non-RAID Disk

          [↑↓]-Select          [ESC]-Exit          [ENTER]-Select Menu
```

5. Press “ESC” to exit and then turn the SMR off to activate the settings.

5.2. Reset the Whole System

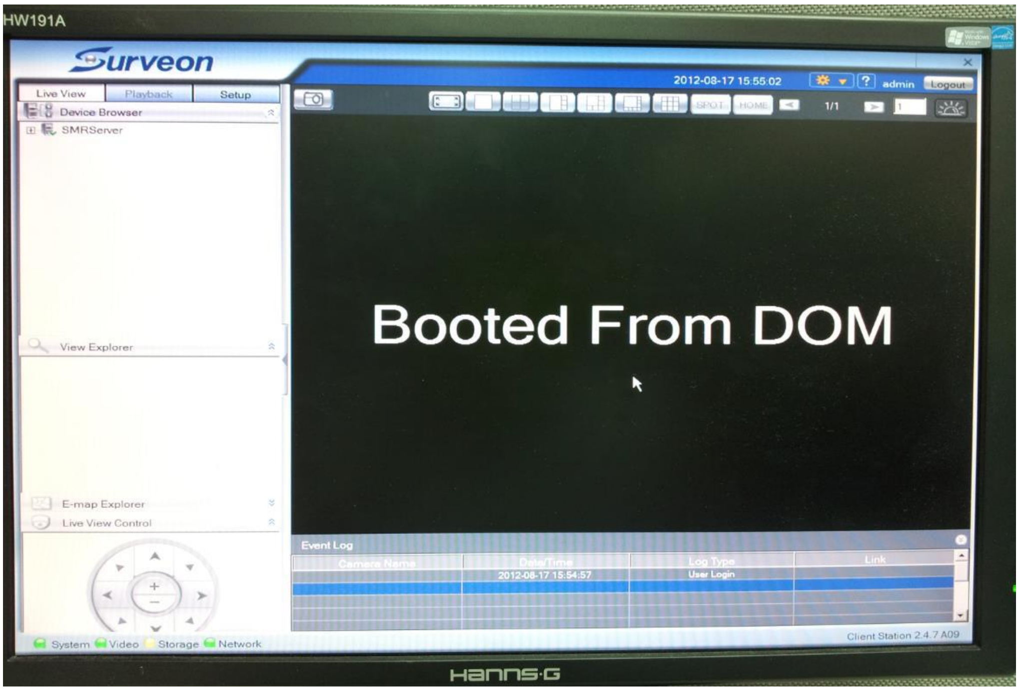
1. Before power on the SMR, please take out the existing hard disk drive to trigger system starts from DOM.
2. Switch on your SMR and you will see the “System started from DOM”. Click “OK” to login.



Warning

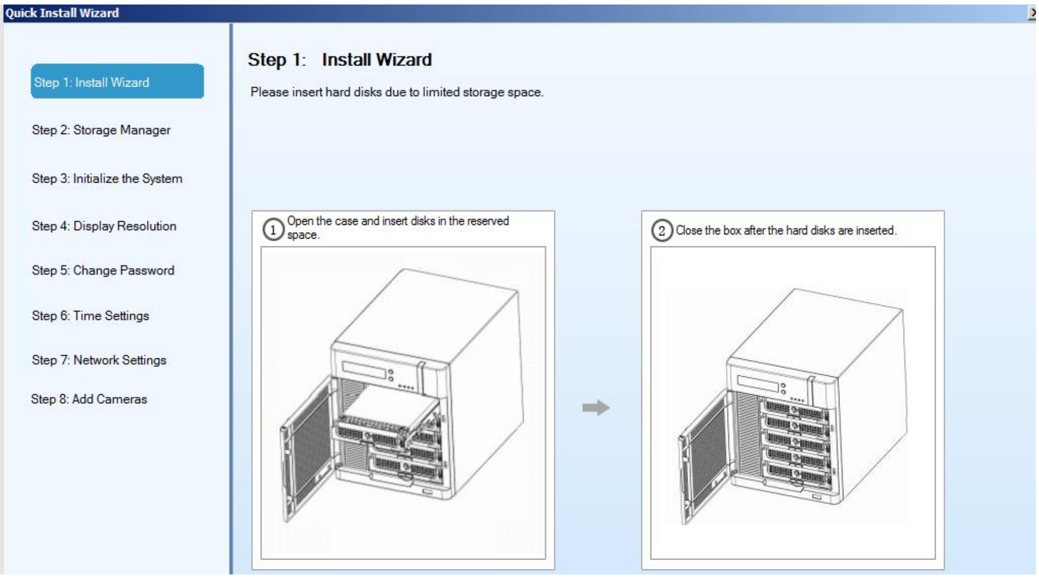
System started from DOM

3. Login VMS.
4. You will see a popup dialog asking you to configure the video path. Click “No”. You will see the following image.



Booted From DOM

5. After that, you will see the Install Wizard as the image shown below. If the install Wizard does not run automatically, click **F4** to launch.



Quick Install Wizard

Step 1: Install Wizard
Step 2: Storage Manager
Step 3: Initialize the System
Step 4: Display Resolution
Step 5: Change Password
Step 6: Time Settings
Step 7: Network Settings
Step 8: Add Cameras

Step 1: Install Wizard

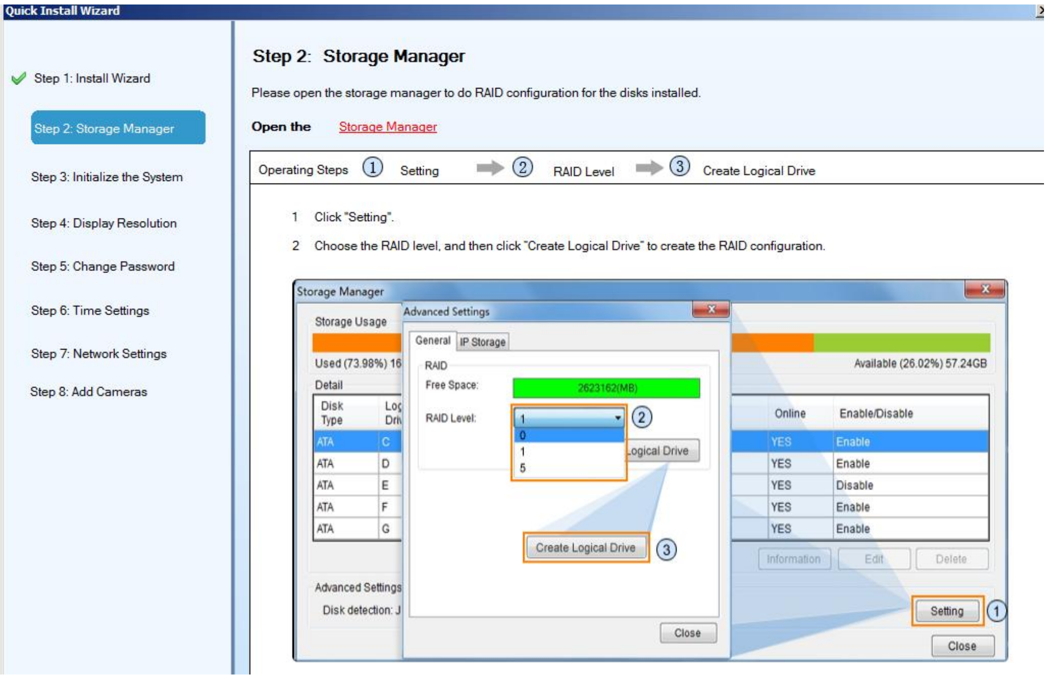
Please insert hard disks due to limited storage space.

1 Open the case and insert disks in the reserved space.

2 Close the box after the hard disks are inserted.

6. Insert an unformatted hard disk drive into the SMR and click “Next” button. If the hard disk that requires a reset is already in your SMR, click “Next” button to proceed.

7. **Skip “Step2: Storage Manager” if you want to keep your old videos and RAID system.**
   Select the “**Step2: Storage Manager**” to set RAID configuration and go to the **“Step 3: Initialize the System”**.



Quick Install Wizard

Step 1: Install Wizard
Step 2: Storage Manager
Step 3: Initialize the System
Step 4: Display Resolution
Step 5: Change Password
Step 6: Time Settings
Step 7: Network Settings
Step 8: Add Cameras

Step 2: Storage Manager

Please open the storage manager to do RAID configuration for the disks installed.

Open the Storage Manager

Operating Steps 1 Setting → 2 RAID Level → 3 Create Logical Drive

1 Click "Setting".

2 Choose the RAID level, and then click "Create Logical Drive" to create the RAID configuration.

8. Click **Setting,** choose the RAID level in the *Advanced Settings* dialogue, and then click **Create Logical Drive** to create the RAID configuration.

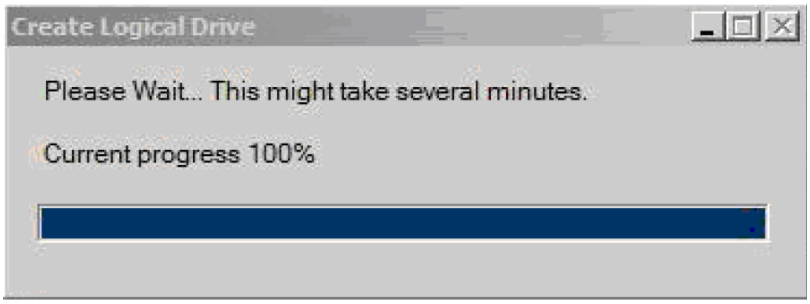
WARNING

All hard disk data will be erased after this step.

These are the RAID level options for SMR models.

Minimum Hard Drives	RAID Options	Descriptions
2	RAID0	Provides no protection, but offers maximum capacity.
2	RAID1	Provides best protection. Your data will be mirrored.
3	RAID5	Provides protection against one drive failure.

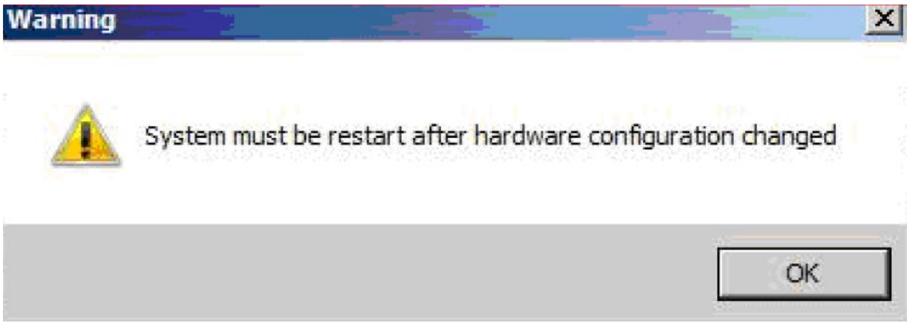
9. After the configuration is done, click **OK,** and the system will reboot automatically.



Create Logical Drive

Please Wait... This might take several minutes.

Current progress 100%

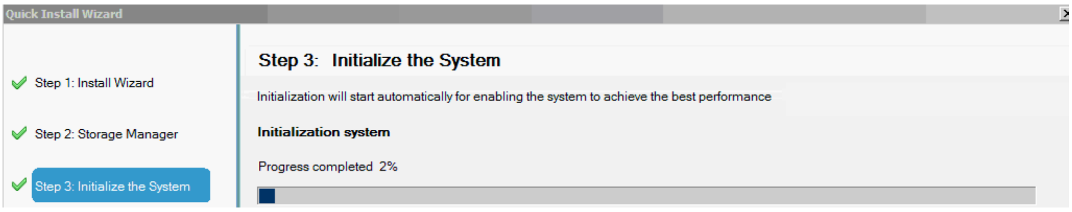


Warning

System must be restart after hardware configuration changed

10. About 2 minutes later, the Install Wizard will appear again. Click **Next** to continue.

11. In the **"Step 3: Initialize the System",** after restart, login to your SMR and the system initialization will start.



Quick Install Wizard

Step 3: Initialize the System

Initialization will start automatically for enabling the system to achieve the best performance

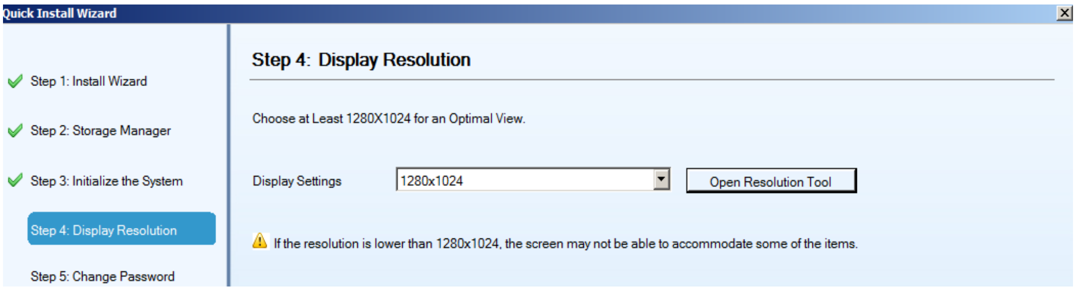
Initialization system

Progress completed 2%

12. After the initialization is done, the system will ask you to shutdown the SMR. Click **OK** and turn the power off and on manually. The Install Wizard will appear again after power on.

13. Press the power switch to restart the system. About 1.5 minutes later, the Install Wizard will appear again.

14. In the "**Step4: Display Resolution**", the recommended monitor resolution for the SMR is 1280x1024. Click **Open Resolution Tool** to change the resolution setting. If the resolution does not require a change, click "**Next**" and skip the "**Step4: Display Resolution**".



Quick Install Wizard

✓ Step 1: Install Wizard

✓ Step 2: Storage Manager

✓ Step 3: Initialize the System

Step 4: Display Resolution

Step 5: Change Password

Step 4: Display Resolution

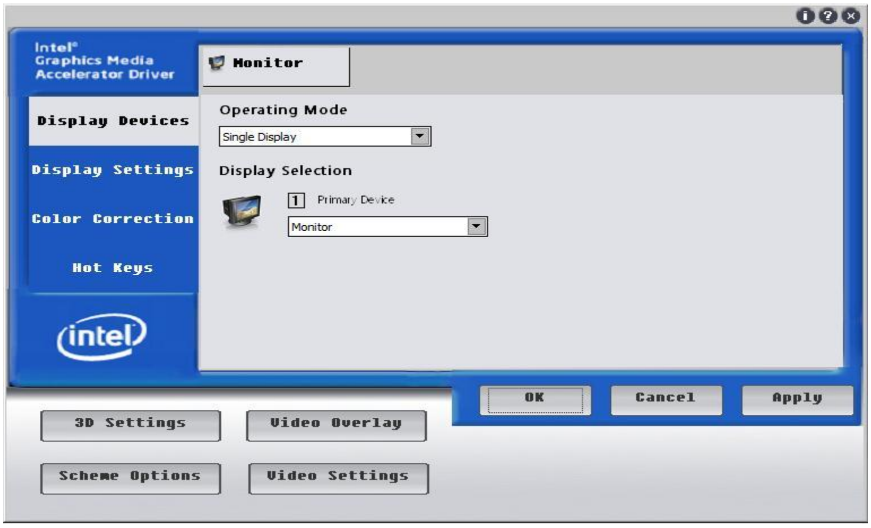
Choose at Least 1280X1024 for an Optimal View.

Display Settings: 1280x1024

⚠ If the resolution is lower than 1280x1024, the screen may not be able to accommodate some of the items.

15. Select **Single Display** as the operating mode and **Monitor** as the display selection in **Primary Device**. Change the screen resolution in **Display Settings**. Click **OK** to finish.

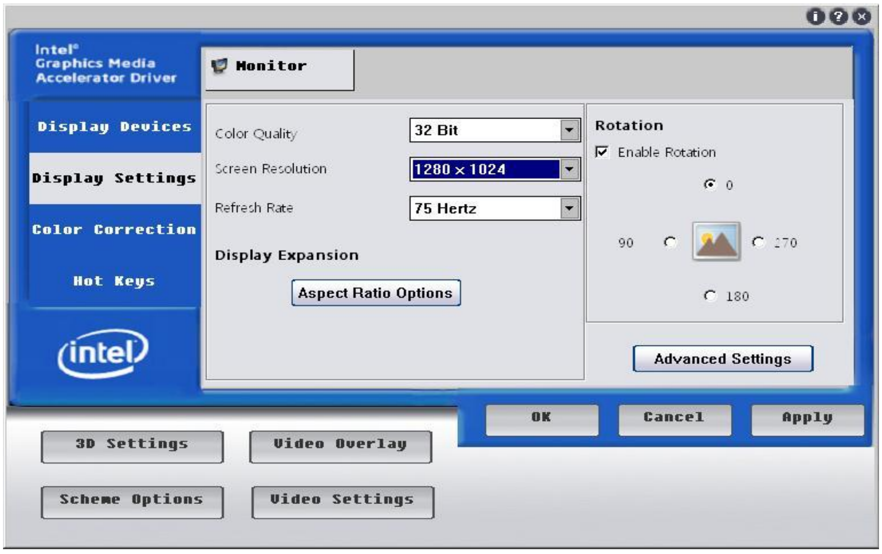
Note: SMR8000 series support dual monitor display.



Operating Mode: Single Display

Display Selection

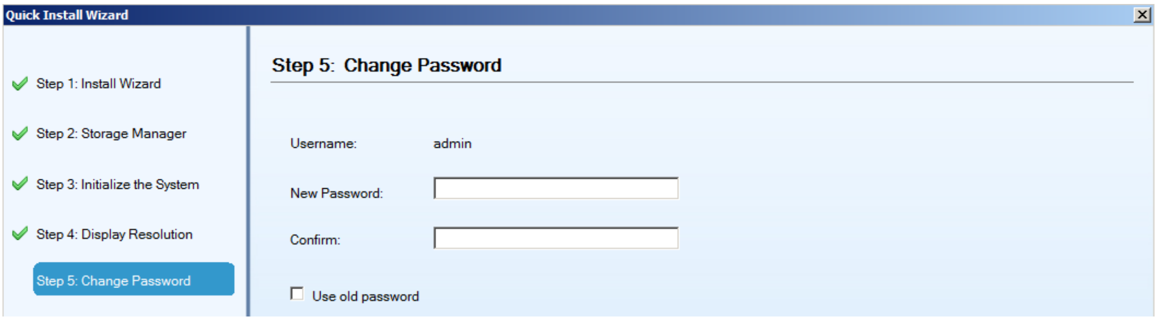
1 Primary Device: Monitor



Color Quality: 32 Bit
Screen Resolution: 1280 x 1024
Refresh Rate: 75 Hertz
Display Expansion
Rotation
☑ Enable Rotation
● 0 ○ 90 ○ 270 ○ 180

16. Click **Next** to continue.

17. In the **"Step 5: Change Password"**, If you want to change the password, please enter a new set in the blanks of **New Password** and **Confirm**. If you want to use the old password, just check on the option **"Use Old Password"**. Click **Next** to continue.



Step 5: Change Password

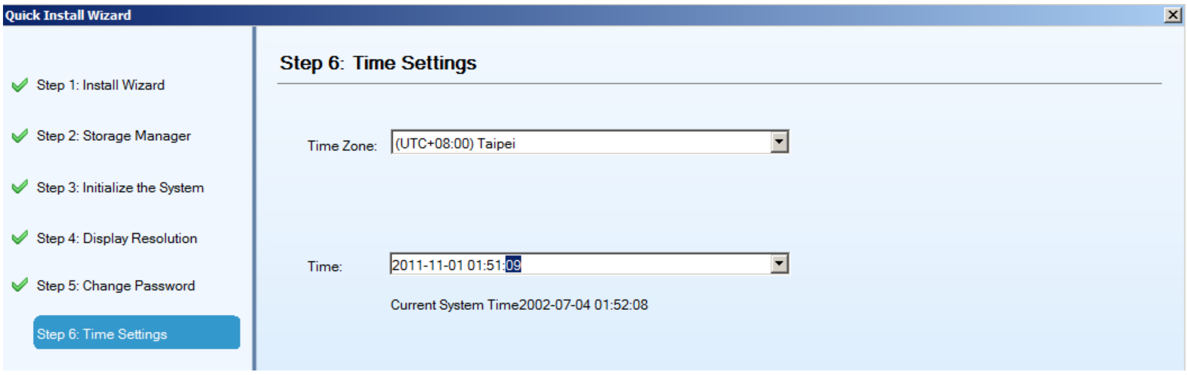
Username: admin

New Password:

Confirm:

□ Use old password

18. In the **"Step 6: Time Settings"**, select the time zone and set the actual date and time the same as your region's time and date. If the date and time are incorrectly set, the functionality of VI, playback and schedule may not work properly. Click **Next** to continue.



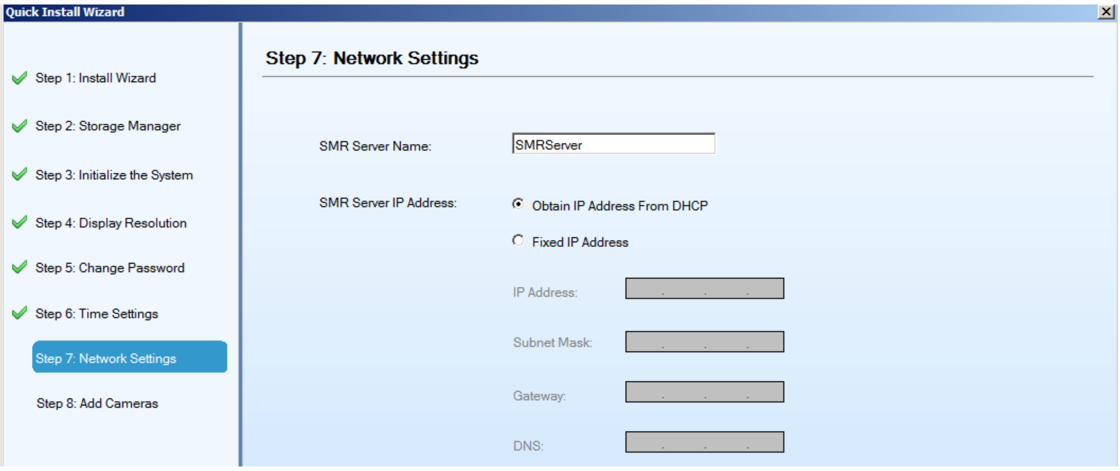
Step 6: Time Settings

Time Zone: (UTC+08:00) Taipei

Time: 2011-11-01 01:51:09

Current System Time2002-07-04 01:52:08

19. In the “**Step 7: Network Settings**”, set the IP address for the SMR server. It is recommended to **Obtain the IP Address From DHCP**. Click **Next** to continue.



Quick Install Wizard

- ✓ Step 1: Install Wizard
- ✓ Step 2: Storage Manager
- ✓ Step 3: Initialize the System
- ✓ Step 4: Display Resolution
- ✓ Step 5: Change Password
- ✓ Step 6: Time Settings
- Step 7: Network Settings
- Step 8: Add Cameras

Step 7: Network Settings

SMR Server Name: SMRServer

SMR Server IP Address: ● Obtain IP Address From DHCP ○ Fixed IP Address

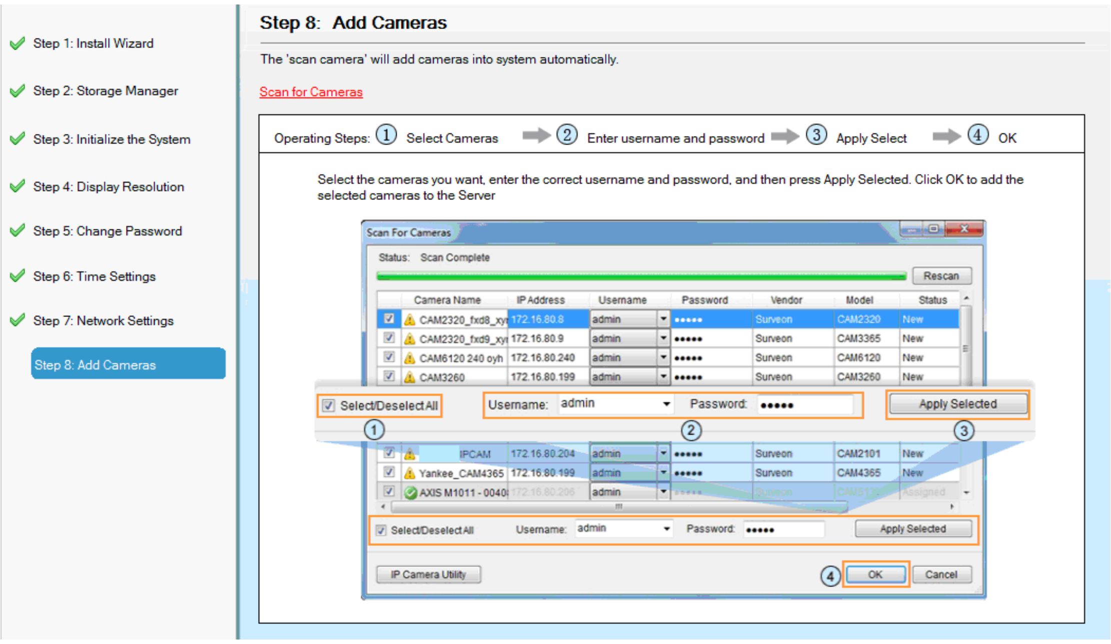
IP Address: . . .

Subnet Mask: . . .

Gateway: . . .

DNS: . . .

20. In the “**Step 8: Scan for Cameras**”, add cameras to the SMR server.



- ✓ Step 1: Install Wizard
- ✓ Step 2: Storage Manager
- ✓ Step 3: Initialize the System
- ✓ Step 4: Display Resolution
- ✓ Step 5: Change Password
- ✓ Step 6: Time Settings
- ✓ Step 7: Network Settings
- Step 8: Add Cameras

Step 8: Add Cameras

The 'scan camera' will add cameras into system automatically.

Scan for Cameras

Operating Steps: ① Select Cameras ➡ ② Enter username and password ➡ ③ Apply Select ➡ ④ OK

Select the cameras you want, enter the correct username and password, and then press Apply Selected. Click OK to add the selected cameras to the Server

Scan For Cameras

Status: Scan Complete

	Camera Name	IP Address	Username	Password	Vendor	Model	Status
☑	CAM2320_fxd8_xyi	172.16.80.8	admin	•••••	Surveon	CAM2320	New
☑	CAM2320_fxd9_xyi	172.16.80.9	admin	•••••	Surveon	CAM3365	New
☑	CAM6120 240 oyh	172.16.80.240	admin	•••••	Surveon	CAM6120	New
☑	CAM3260	172.16.80.199	admin	•••••	Surveon	CAM3260	New
☑	IPCAM	172.16.80.204	admin	•••••	Surveon	CAM2101	New
☑	Yankee_CAM4365	172.16.80.199	admin	•••••	Surveon	CAM4365	New
☑	AXIS M1011 - 0040	172.16.80.206	admin	•••••	Surveon	CAM5130	Assigned

21. The available cameras will be listed. Check the box of the cameras that you’d like to add in the SMR. Check the “**Select/Delete All**” box to add all the available cameras in.

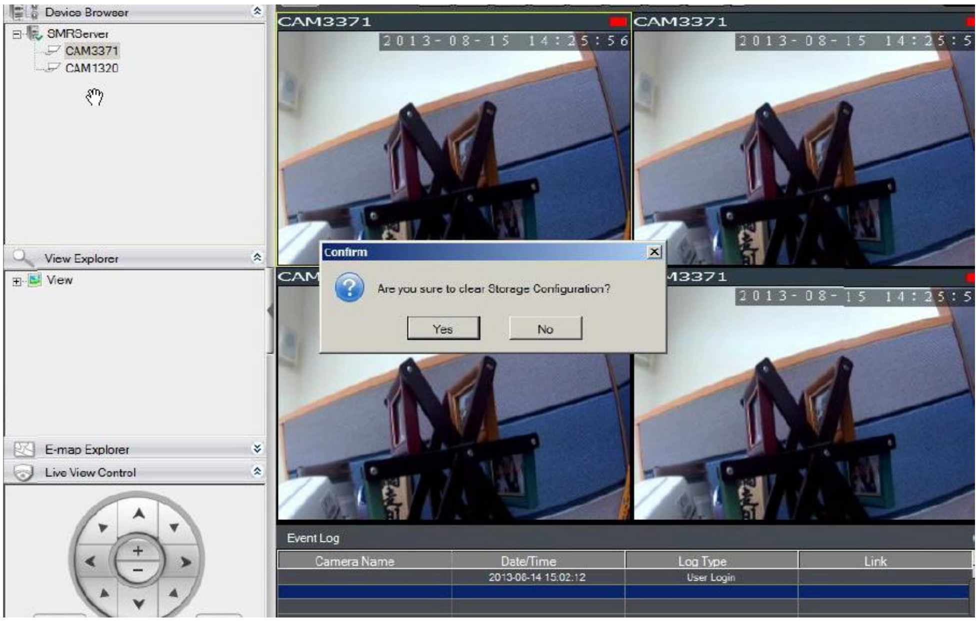
22. Type the username, password and click “**Apply Selected**”.

23. Click **OK** to confirm and save the settings.

24. Click **Finish** to end the Install Wizard.

25. The VMS will start automatically after the Install Wizard is close.

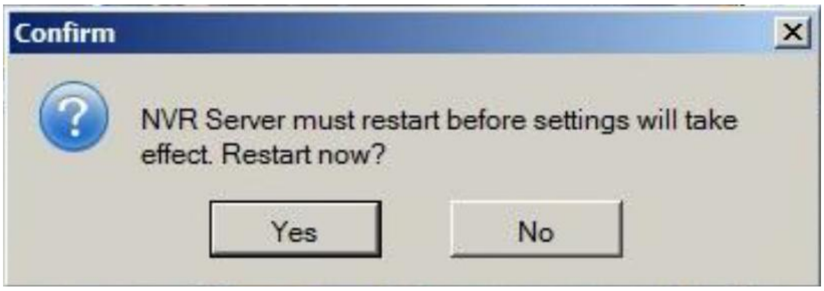
26. If your SMR version is above 2.4.8A02 and you have changed SMR RAID type, press **F7** to reinitialize the updated RAID status on DOM (Internal SSD). Click **Yes** to clear old Storage Configurations.



Are you sure to clear Storage Configuration?

Camera Name	Date/Time	Log Type	Link
	2013-08-14 15:02:12	User Login	

27. Click **Yes** to restart the SMR to activate the settings.



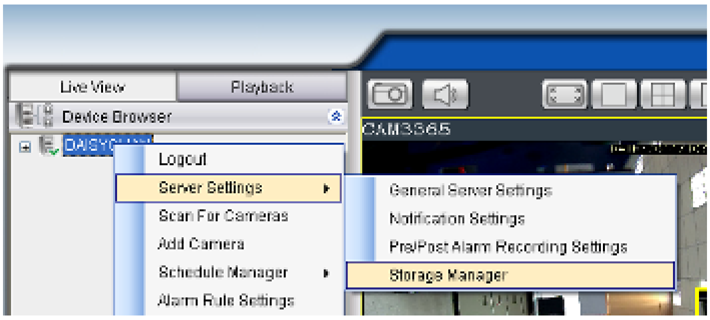
NVR Server must restart before settings will take effect. Restart now?

28. Turn on the SMR to have it start working.

Chapter 6. Basic System Settings

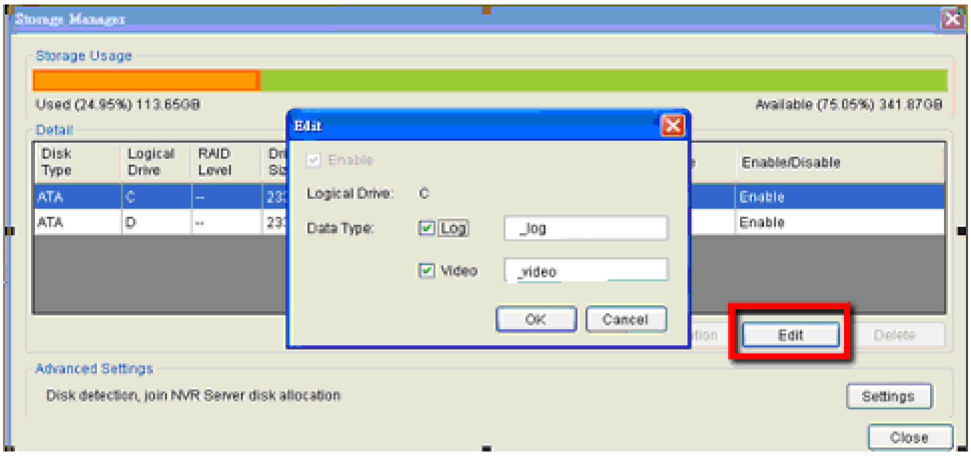
6.1. Storage Management

1. To access the information about the drives configured in your Server, highlight and click the **Storage Manager** option under **Server Settings**.



2. All available Logical Drives, as well as their sizes, free space, and status will appear.

Click **Edit** to set the log and location for saving the video recordings.



Used (24.95%) 113.65GB

Available (75.05%) 341.87GB

Disk Type	Logical Drive	RAID Level	Dri Siz	Enable/Disable
ATA	C	--	23	Enable
ATA	D	--	23	Enable

☑ Enable

Logical Drive: C

Data Type: ☑ Log _log

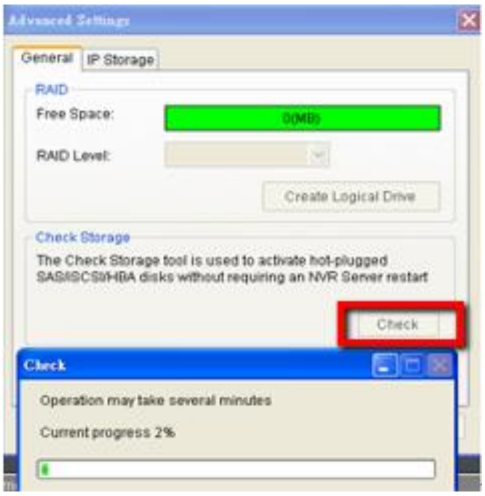
☑ Video _video

Disk detection, join NVR Server disk allocation

(Step 3 and 4 are for the remote client of NVR2000/SMR Series.)

3. Click the target drive first and then **Settings**.

In “Advanced Settings” dialogue, “General” tab, click **Check**.



Free Space: 0(MB)

The Check Storage tool is used to activate hot-plugged SAS/iSCSI/HBA disks without requiring an NVR Server restart

Operation may take several minutes

Current progress 2%

4. Choose the RAID level, and then click **Create Logical Drive** to create the RAID configuration.

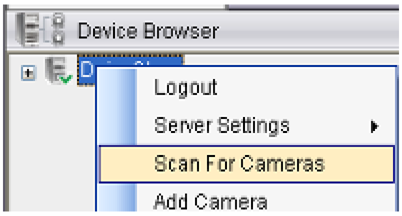
Note: Storage Manager can also be accessed by clicking ***Server > General Tasks > Storage*** *or* ***Server Entry > Common Tasks > Common Server Tasks > Storage*** in the VMS Console.

6.2. Adding Cameras to the Server

Cameras can be added to the Server in two ways: via an automatic scan or by manually inputting the camera information.

6.2.1. Automatic Scan for Cameras

To begin an automatic scan for cameras:

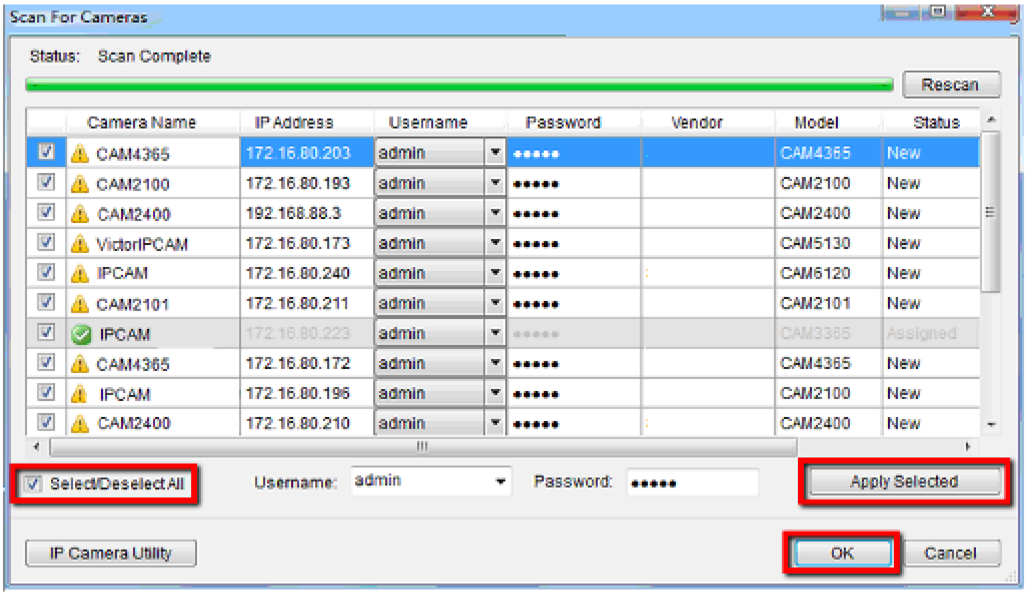


1. Right-click the Server entry and select **Scan for Cameras**. The system will respond by beginning an automatic scan. Once the scan is complete, the cameras that can be added to the Server will be displayed. Information available for each camera will include:

   - **Name** – The default camera name (Make/Model)
   - **Status** – The camera will display *New* if it has not been added to this Server, otherwise it will display *Assigned*.
   - **IP Address**
   - **MAC Address**
   - **Vendor - Including ACTI, ASONI, AVTECH, AXIS, Arecont, Sosch, Brickcom, DyNACOLOR, D_Link, Dahua, EDIMAXHIKVISION, EverFocus, HIKVISION, IQinVision, Lilin, Eessoa, Mobotix, ONVIF, Panasonic, SIMON, SONY, Samsung, Surveon, VIVOTEK, and General.**
   - **Model**

2. To add a camera to the system, check the box by the camera entry. You may also check the **Select All** box at the bottom of the window to select all the cameras found.

   Enter the username and password, and press **Apply Selected**. Click **OK** to add the selected cameras to the Server.

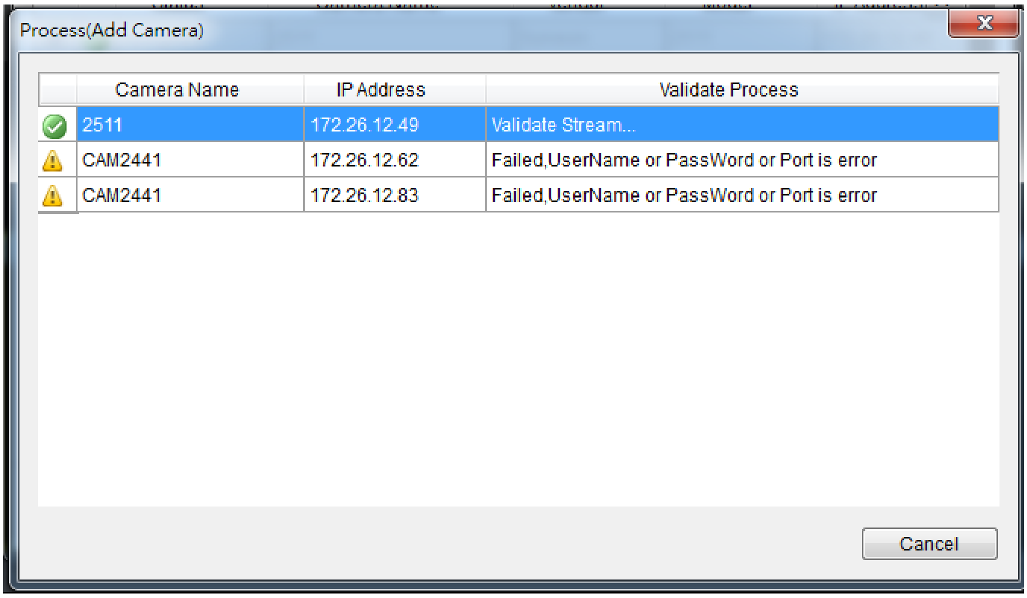


Status: Scan Complete

	Camera Name	IP Address	Username	Password	Vendor	Model	Status
☑	⚠ CAM4365	172.16.80.203	admin	•••••		CAM4365	New
☑	⚠ CAM2100	172.16.80.193	admin	•••••		CAM2100	New
☑	⚠ CAM2400	192.168.88.3	admin	•••••		CAM2400	New
☑	⚠ VictorIPCAM	172.16.80.173	admin	•••••		CAM5130	New
☑	⚠ IPCAM	172.16.80.240	admin	•••••		CAM6120	New
☑	⚠ CAM2101	172.16.80.211	admin	•••••		CAM2101	New
☑	✓ IPCAM	172.16.80.223	admin	•••••		CAM3365	Assigned
☑	⚠ CAM4365	172.16.80.172	admin	•••••		CAM4365	New
☑	⚠ IPCAM	172.16.80.196	admin	•••••		CAM2100	New
☑	⚠ CAM2400	172.16.80.210	admin	•••••		CAM2400	New

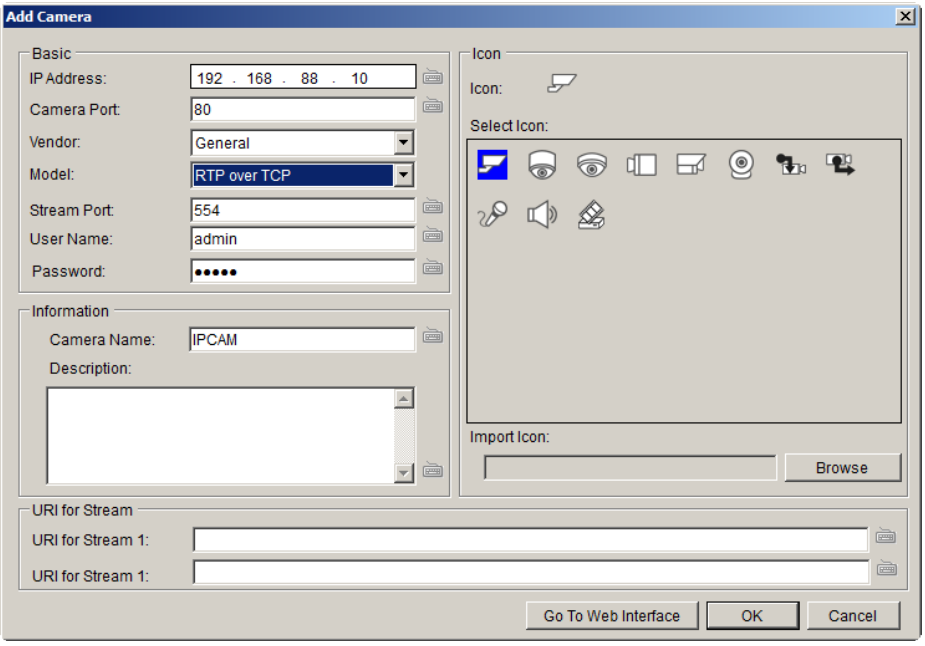
☑ Select/Deselect All   Username: admin   Password: •••••

The following windows will prompt for validation.



	Camera Name	IP Address	Validate Process
✓	2511	172.26.12.49	Validate Stream...
⚠	CAM2441	172.26.12.62	Failed,UserName or PassWord or Port is error
⚠	CAM2441	172.26.12.83	Failed,UserName or PassWord or Port is error

3. **(Optionally)** Double-click any camera entry to bring up the camera detail page. From this page you may change the following information:



IP Address: 192 . 168 . 88 . 10

Camera Port: 80

Vendor: General

Model: RTP over TCP

Stream Port: 554

User Name: admin

Password: •••••

Camera Name: IPCAM

URI for Stream 1:

URI for Stream 1:

- **IP Address** – Changing this value will affect connectivity.
- **Camera Port -** The web access port, default is 80.
- **Stream Port** – Default is 6002.
- **Vendor** – Changing this value will affect connectivity.
- **Model** – Changing this value will affect connectivity.
- **User Name** – This value is not always required.
- **Password** – This value is not always required.
- **Camera Name** – It is recommended you change this value if you have more than one camera of this make/model.
- **Camera Description**
- **Camera Icon -** You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.

Finally, you can access the web interface for the camera by clicking on the **Go to Web Interface** button. Click **OK** to save your changes, or **Cancel** to exit without saving.

4. **(Optionally)** You may access the IP Utility for camera configurations of by clicking the **IP Camera Utility** button.

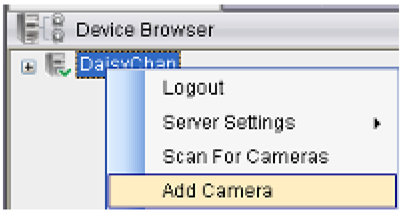
5. Click **OK** to add the selected cameras to the Server.

Note: Automatic Scan for Cameras can also be accessed by clicking ***Camera List > General Tasks > Scan for Cameras*** *or* ***Server Entry > Common Tasks > Common Server Tasks > Scan for Cameras*** in the VMS Console.

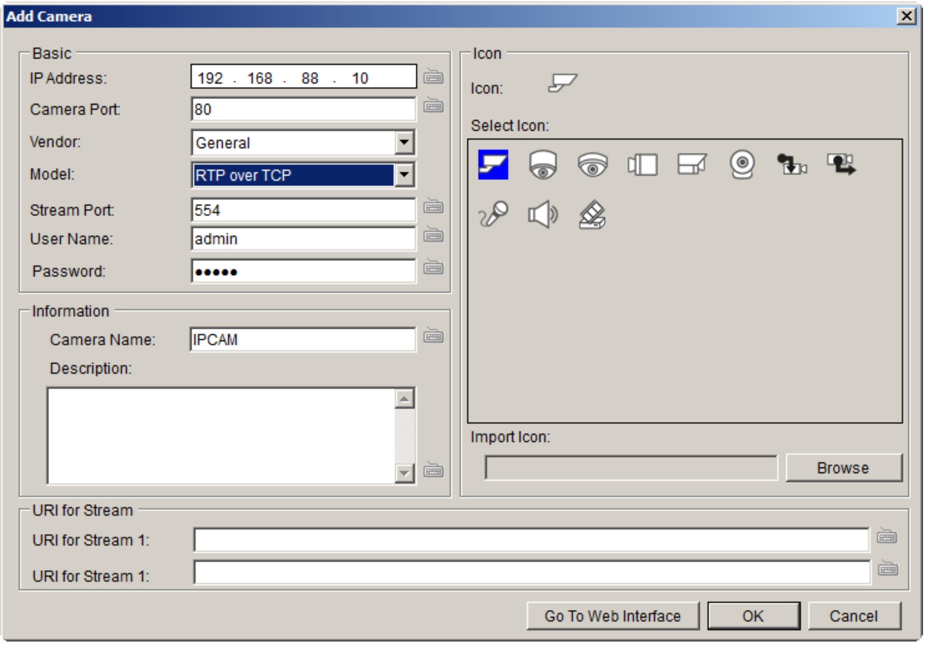
6.2.2. Manually Adding Cameras

To manually add a camera to the Server:

1. Right-click the Server entry and select **Add Camera**.



2. In the camera window fill out the following information:


Add Camera

Basic

IP Address:	192 . 168 . 88 . 10
Camera Port:	80
Vendor:	General
Model:	RTP over TCP
Stream Port:	554
User Name:	admin
Password:	•••••

Information

Camera Name:	IPCAM
Description:	

URI for Stream

URI for Stream 1:	
URI for Stream 1:	

- **IP Address**
- **Camera Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
- **Vendor - Including ACTI, ASONI, AVTECH, AXIS, Arecont, Sosch, Brickcom, DyNACOLOR, D_Link, Dahua, EDIMAXHIKVISION, EverFocus, HIKVISION, IQinVision, Lilin, Eessoa, Mobotix, ONVIF, Panasonic, SIMON, SONY, Samsung, Surveon, VIVOTEK, and General.**
- **Model -** when **"General"** is selected, **"RTP over TCP"** and **"RTP over UDP"** can be further defined.
- **Stream Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.

- **User Name** – This value is not always required.
- **Password** – This value is not always required.
- **Camera Name** – It is recommended you change this value if you have more than one camera of this make/model.
- **Camera Description**
- **URI for Stream:** when **“General”** is selected, **“URI for Stream 1”** can be further defined.

  For example:

  For a Surveon IP camera, type
  RTSP://<IP of the IP camera>/stream1 or stream2

  For an AXIS IP camera, type
  RTSP://<IP of the IP camera>/<codec>/media.amp

  For a HIKVISION IP camera, type
  RTSP://username:password@<IP of the IP Camera>

- **Camera Icon -** You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.

3. Finally, once basic camera information is filled in, you may access the web interface for the camera by clicking on the **Go to Web Interface** button. Click **OK** to add the camera.

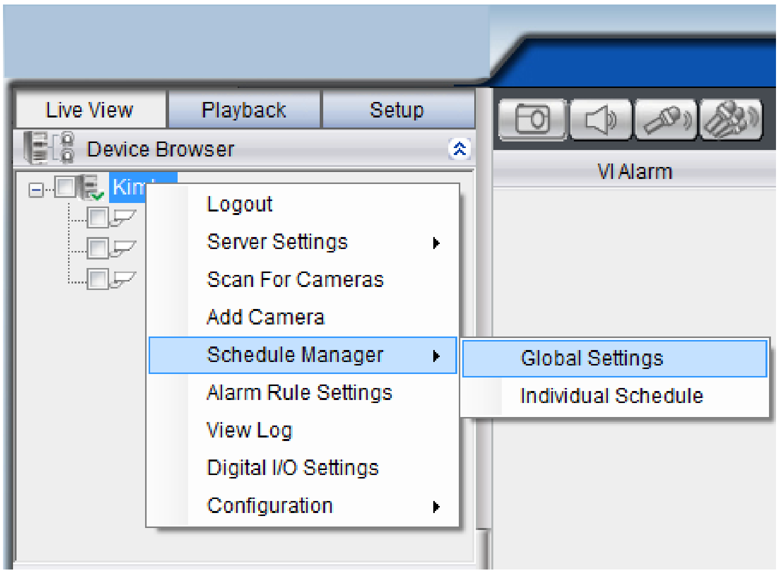
Note: Cameras can also be added manually by clicking ***Camera List > General Tasks > Add Camera*** in the VMS Console.

6.3. Setting Recording Schedule

A global Schedule applies to all cameras, while individual schedules are for each camera. Individual schedules take precedence over global schedules.

6.3.1. Weekly Scheduling

1. Right-Click the VMS entry and choose **Schedule Manager > Global Settings** or **Individual Schedule** to bring up the Weekly Schedule popup.

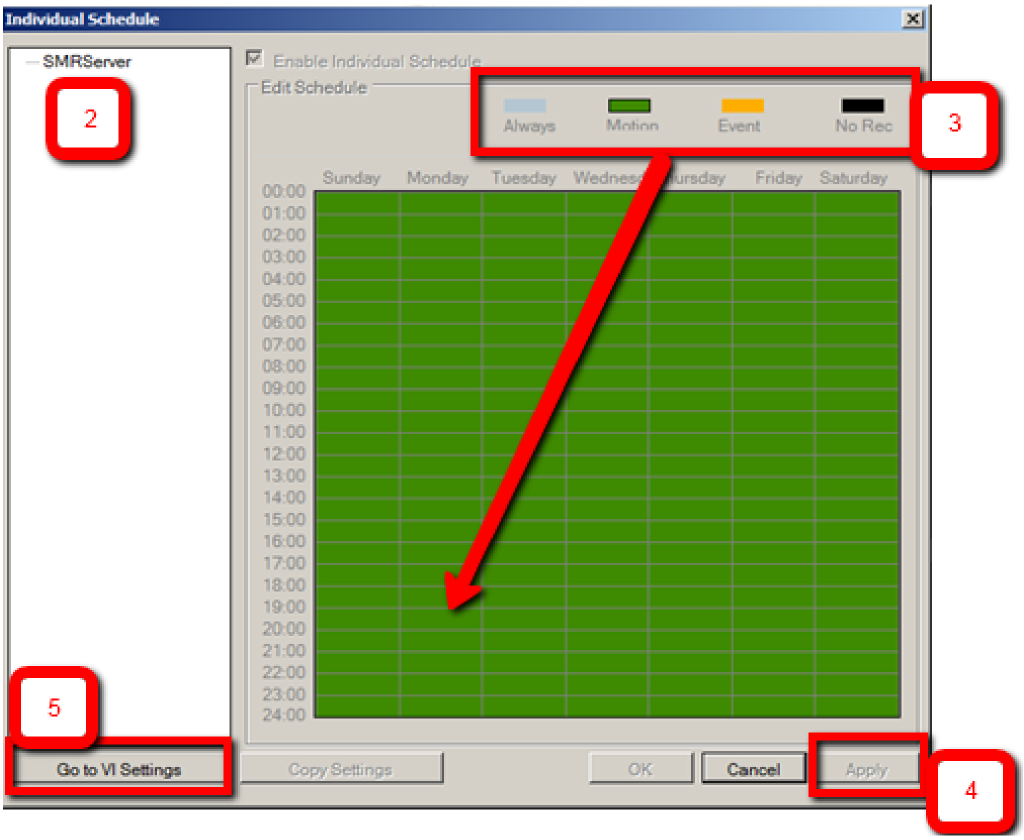


2. If setting individual schedule and more than one camera is configured, choose the camera you wish to set from the list.

3. The schedule grid corresponds to every hour in the week. Click on one of the four recording methods and then click on the grid area to “paint in” the method for the corresponding hour.

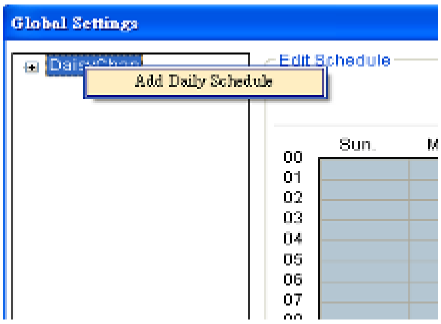
4. Click the **Apply** button to apply the schedule and **OK** to exit the dialog.

5. **(Optional)** You may go to the VI setting panel by clicking **Go to VI Settings.**

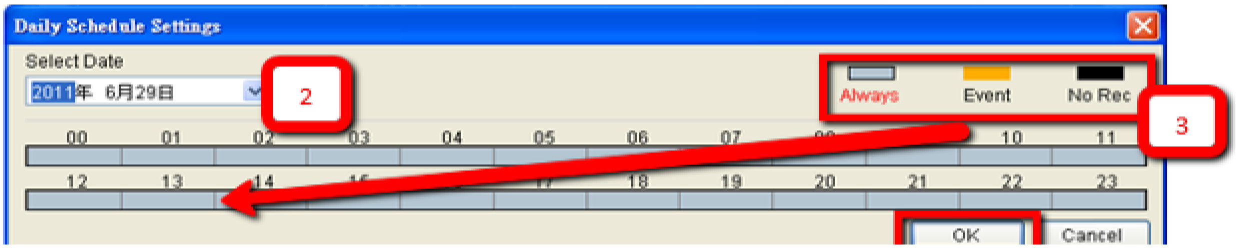


6.3.2. Daily Scheduling

1. Right Click the server entry and choose **Add Daily Schedule**.



2. Click the **Select Date** selection box and choose the date that you want to schedule.



3. Click on one of the methods and then click on the grid area to “paint in” the method for the corresponding hour.

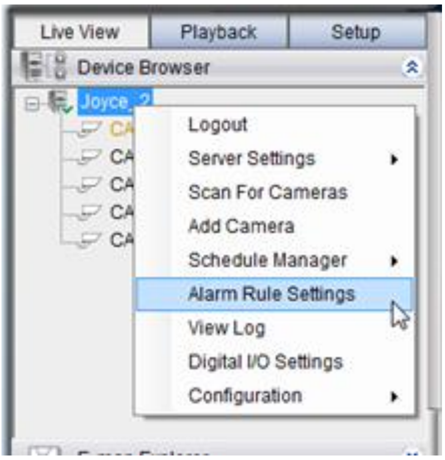
4. Click **OK** to apply the changes.

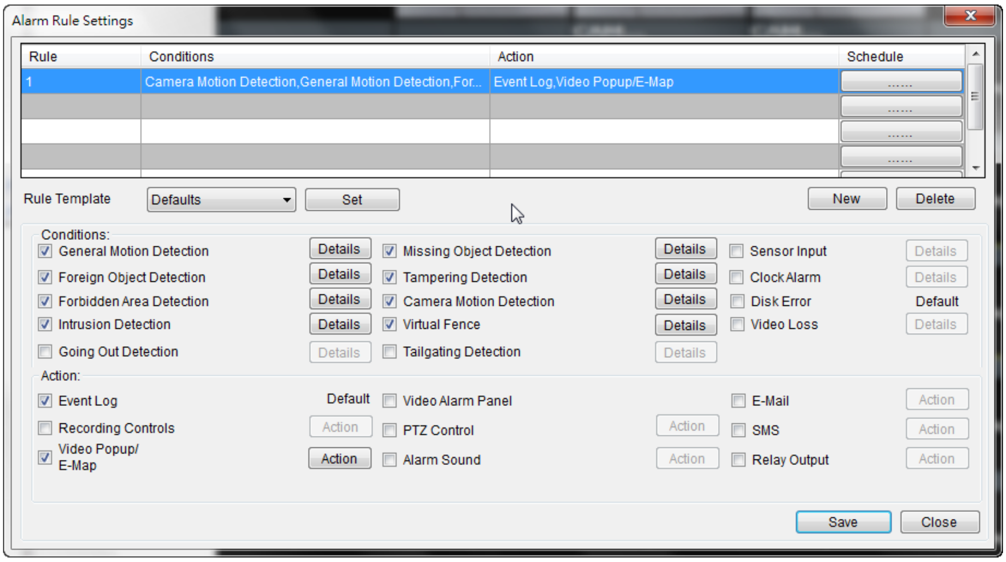
6.4. Adding Alarm Rules

Alarm rules can be created using the following elements:

- **Rule**: A short description. For example, “east-fence intrusion detection” or “front entrance access control.”
- **Condition**: Specifies triggering conditions such as Motion/Video loss/Sensor input/Clock Alarm, etc.
- **Action**: Specifies the action to take when the alarm is triggered.
- **Schedule**: Allows the user to schedule the application of specific Alarm rules. This is useful in cases such as applying rules to non-office hours.

1. Right-click the NVR entry and select the **Alarm Rule Settings** option under VMS node.




Alarm Rule Settings

Rule	Conditions	Action	Schedule
1	Camera Motion Detection,General Motion Detection,For...	Event Log,Video Popup/E-Map	......
			......
			......
			......

Rule Template: Defaults | Set | New | Delete

Conditions:

☑ General Motion Detection (Details)
☑ Foreign Object Detection (Details)
☑ Forbidden Area Detection (Details)
☑ Intrusion Detection (Details)
☐ Going Out Detection (Details)
☑ Missing Object Detection (Details)
☑ Tampering Detection (Details)
☑ Camera Motion Detection (Details)
☑ Virtual Fence (Details)
☐ Tailgating Detection (Details)
☐ Sensor Input (Details)
☐ Clock Alarm (Details)
☐ Disk Error (Default)
☐ Video Loss (Details)

Action:

☑ Event Log (Default)
☐ Recording Controls (Action)
☑ Video Popup/ E-Map (Action)
☐ Video Alarm Panel
☐ PTZ Control (Action)
☐ Alarm Sound (Action)
☐ E-Mail (Action)
☐ SMS (Action)
☐ Relay Output (Action)

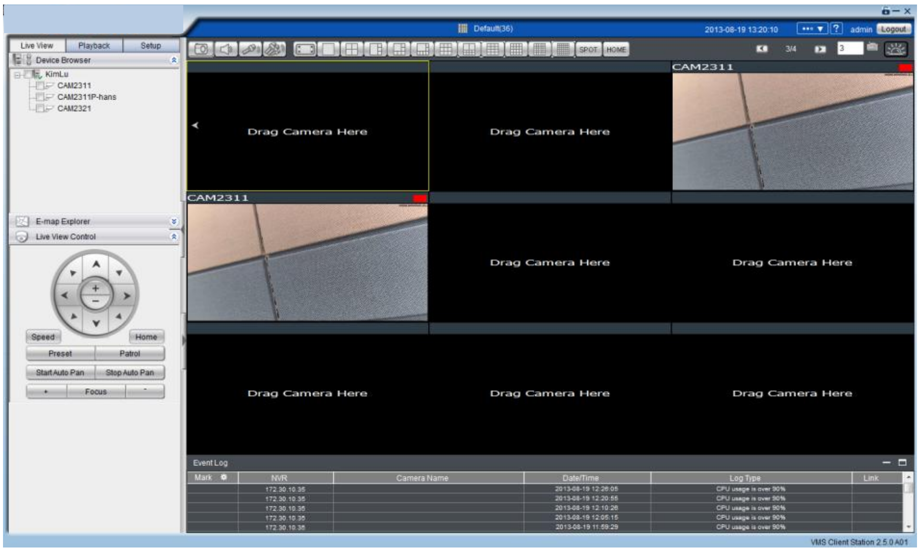
Save | Close

2. Click the New button.
3. Enter name for the new rule and click **OK** to create the rule.
4. Choose conditions for the Alarm. Detailed settings can be changed by clicking **Details.**
5. Select actions for the alarm. Detailed settings for actions can be set by clicking **Action.**
6. Click the……button in the alarm field to set up a schedule for the rule. Default scheduling is record always on.
7. Click the **Save** button to save the rule.

6.5. Setting up Live View

An important part of monitoring your surveillance network is to have the right views so that you will have the optimum viewing angle to discern a situation.

The default view setting is 3x3.



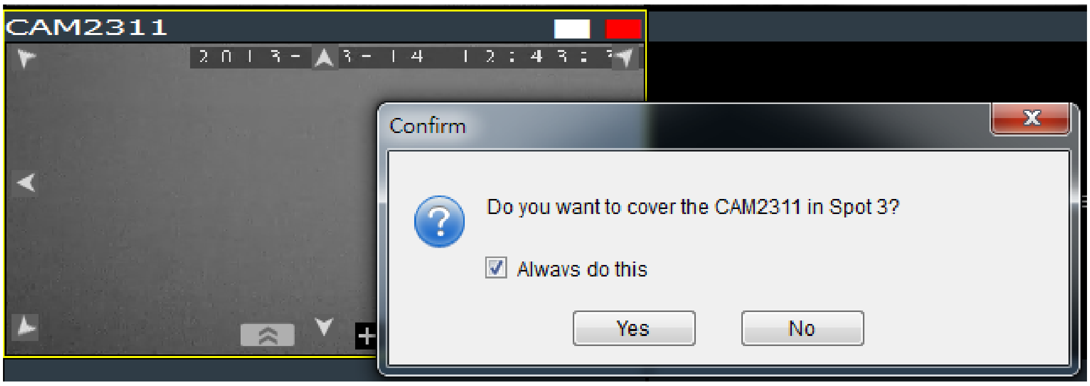
Event Log

Mark	NVR	Camera Name	Date/Time	Log Type	Link
	172.30.10.35		2013-08-19 12:26:05	CPU usage is over 90%	
	172.30.10.35		2013-08-19 12:20:55	CPU usage is over 90%	
	172.30.10.35		2013-08-19 12:10:26	CPU usage is over 90%	
	172.30.10.35		2013-08-19 12:05:15	CPU usage is over 90%	
	172.30.10.35		2013-08-19 11:59:29	CPU usage is over 90%	

You can also add a customized view to the VMS Client:

1. Right click on **Views > Add View** in the *View Explorer* window of the VMS, and choose the type of view that you wish to add. The software responds by placing a blank template in the main viewing area.
2. From the *Device Browser* window, you can click and drag each camera into separate frames. The camera output will be displayed in the frame.

When two cameras are dragged into the same view, a popup window will ask you whether you want to use the latter camera to replace the former one.

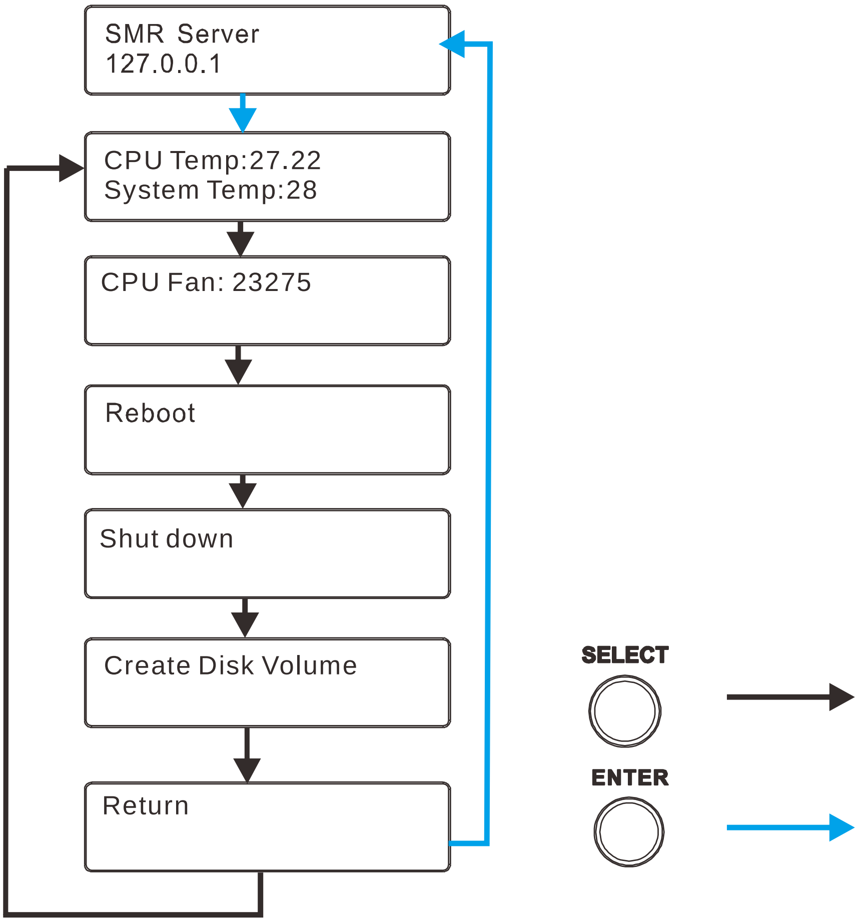


Do you want to cover the CAM2311 in Spot 3?

☑ Always do this

6.6. Using the LCD Menu in SMR Desktop Systems

The SMR 5000/8000 series come with a LCD screen that provides users with basic system statuses. There are 6 screen messages and selections: CPU and System Temperature, CPU fan Speed, Reboot, Shut Down, Create Disk Volume and Return. Users can enter these menus by pressing “Enter Button” first.



6.6.1. Checking the System Status

CPU and System Temperature/CPU Fan Speed can be seen by pressing “Select Button” once/twice.

6.6.2. Rebooting/Shutting Down SMR

Users can enter the reboot/shut down menu by pressing “Select Button” twice or thrice, and then press “Enter Button” to restart/shut down the system.

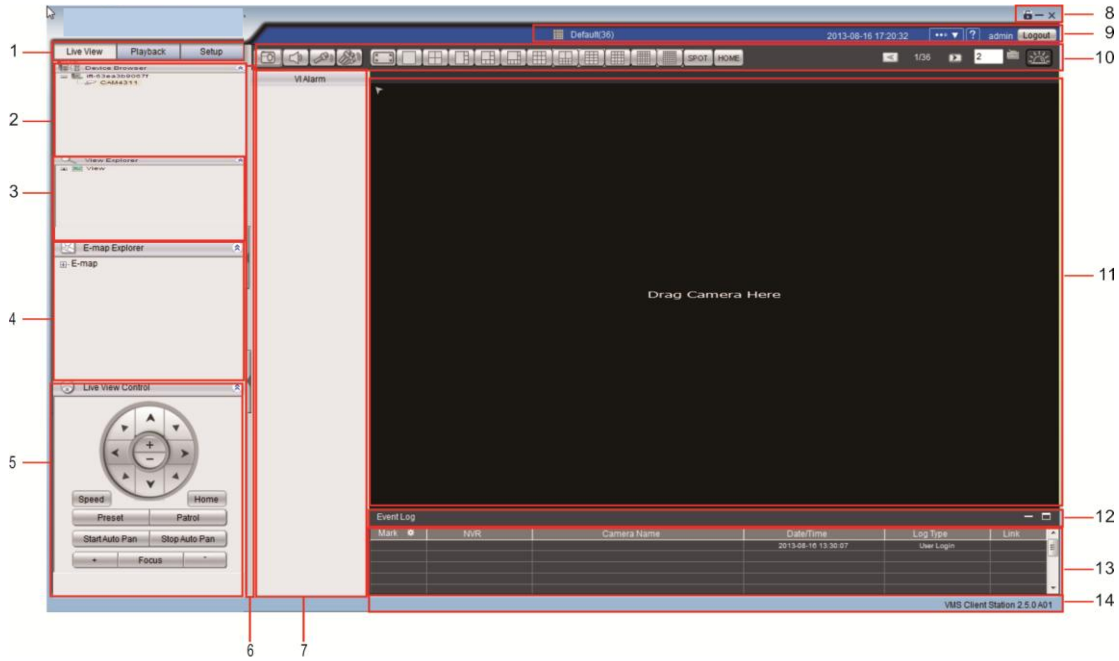
Note: The function of “Create Disk Volume” menu is reserved.

Chapter 7. Live View

Live viewing is a crucial part of any surveillance system. Having the right view can be the crucial difference between catching an event as it happens and missing it altogether. VMS provides powerful tools to manage the viewing experience to help ensure that monitoring personnel are always on top of any event.

7.1. Live View Window Overview

The live view window is split into 14 distinct parts:



1. **Live View / Playback Selection Tabs** – Allows users to choose live view and playback mode.

2. **Device Browser** – Lists the Servers in the domain.

3. **View Explorer** – Lists the views that are configured on this client.

4. **E-Map Explorer** – Lists the E-maps available on this Server.

5. **Live View Control** – Interface for interacting with PTZ-enabled cameras.

6. **Arrows for open up or close in the image panel and the VI Alarm panel.**

7. **VI Alarm** –Area for alarm notification and instant playback.

8. **Window Toolbar** – Lock the window, minimize the window, or leave the system.

9. **View/Account Information** – This area contains general information. Arrow button containing Server configuration options. Question mark indicates Help File. Logout button for a quick logout.

10. **Button Area -** This area contains the buttons to change views, enter full screen mode, capture photos, send audio files to the chosen / all cameras and other useful functions.

📷	Snapshot
🔈	Volume control
🎤	Talk to the chosen camera
🎤	Broadcast to all the cameras
⛶	Full screen mode
□ ⊞ ◫ ⊞ ⊞ ▦ ▦ ▦ ▦ ▦ ▦	Viewing screen modes
SPOT	Auto page flip between pages
HOME	Reset all the settings, including page auto-flipping and different screen divisions

11. **Main View Area** – This area contains the actual video feed(s).

12. **Event Log Window** – Close or send to another window for a better view of the Event Log.

13. **Event Log -** This area contains alarm and event information.

14. **Version** – Shows the current VMS version.

7.1.1. Resizing and Minimizing Windows

Minimizing Controls

The Device Browser, View Explorer, E-Map Explorer, Live View Controls, and Event Log can all be minimized by clicking on the arrow buttons on the top-right corner of their screens.

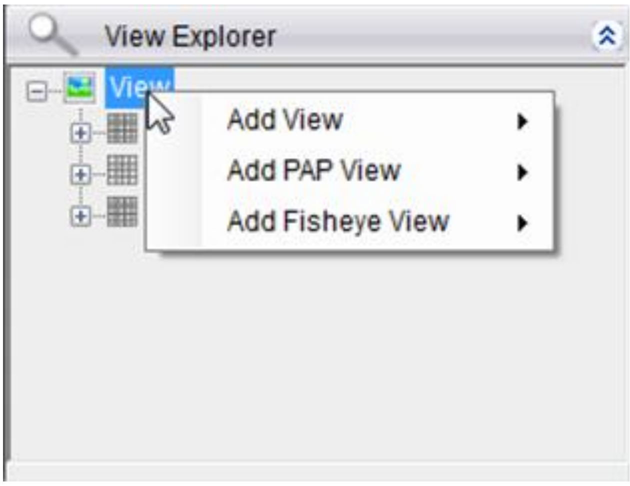
Hiding and Showing the Explorer Area

The entire left panel (containing the Live View/Playback Selection Tabs, Device Browser, View Explorer, E-Map Explorer, and Live View Controls) can be hidden by clicking on the arrow on the left of the Live View Control.

7.2. View Setup

7.2.1. Types of Views

The VMS/NVR Server supports viewing of up to 32 cameras in a single view, with views of up to 36 cameras.

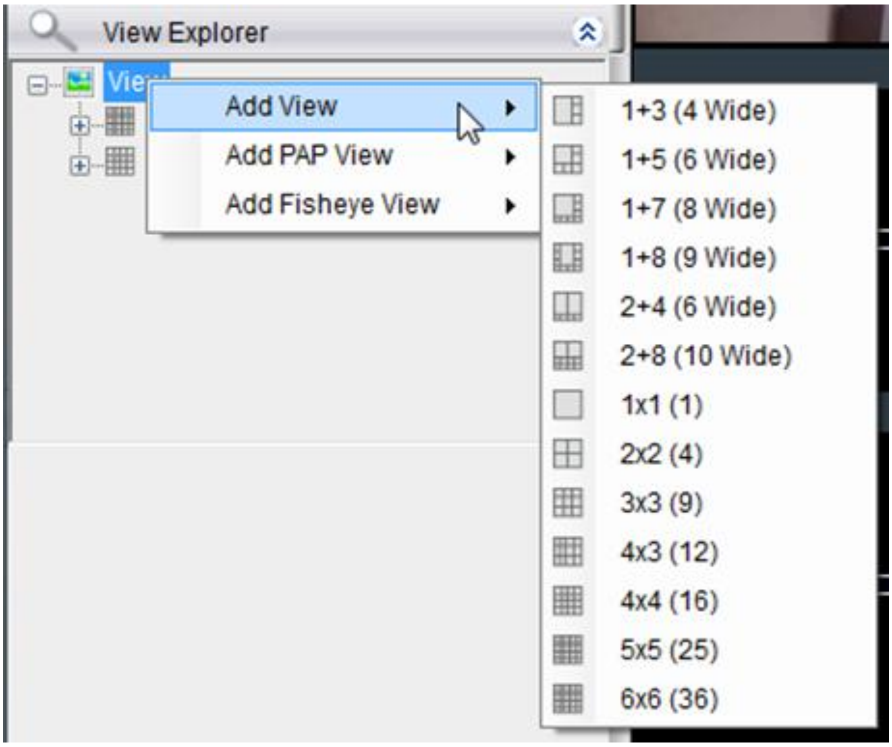


Note: SMR2000/5000 series supports views of up to 16 cameras.

Views with more subdivisions are more useful for giving an overview of an area, while ones with fewer subdivisions give better details. Multiple views can also be displayed in sequence or in separate windows for managing more than 16 cameras.

7.2.2. Adding a View

An important part of monitoring your surveillance network is to have the right views so that you will have the optimum viewing angle to discern a situation. To add a customized view to the VMS client:



1. Right click on **Views** in the *View Explorer* window, and choose the **Add View** option, the software will respond by listing available screen division types.
2. Choose the type of view that you wish to add by clicking on the view. The software responds by placing a blank template in the main viewing window that has been subdivided into individual frames according to the view selected. The empty frames will display the message *No camera*.
3. From the *Device Browser* window, you can click and drag the entries for individual cameras into the separate frames. The camera output will be displayed in the frame. Cameras in the view do not have to all be from the same server.

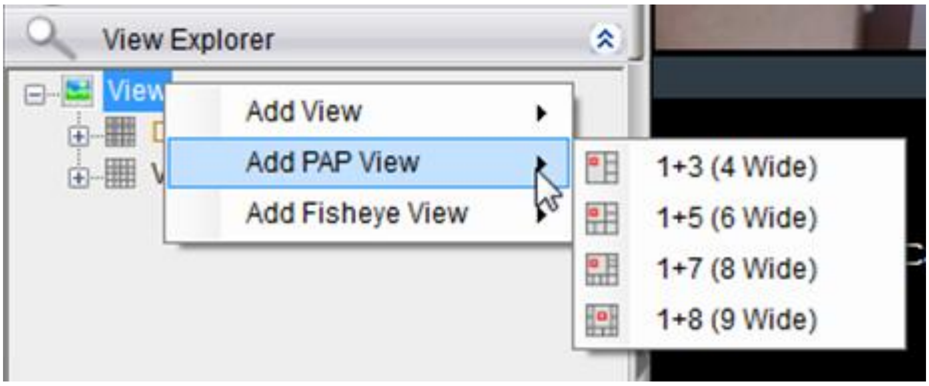
Dragging a camera into a frame that already has a camera assigned to it will cause the frame to be reassigned to the new camera. You can also drag the same camera into multiple frames or leave frames blank, although this is not suggested.

The *View Explorer* will be updated as you add cameras to your view. The root will list the camera numbers that have been added to the view starting from the top left frame and going from left to right and top to bottom.

Note: Depending on your connection and computer speed, it may take a moment for the image to refresh after dragging the camera into the view window. During this time the frame may still display *No Camera* or *Failed to connect*. If this problem persists, however, there may be a problem with your connection or hardware.

7.2.3. Add PAP View

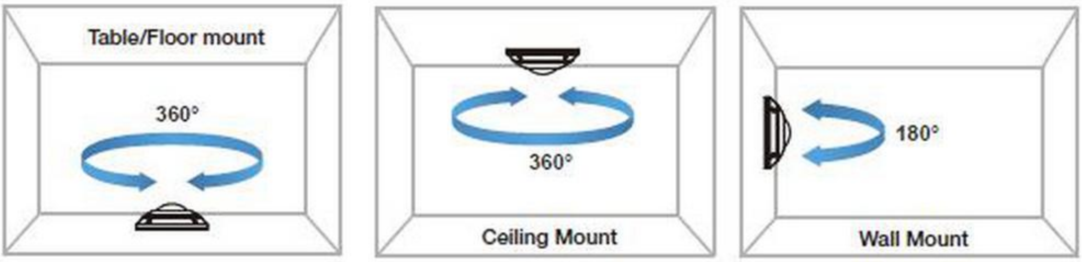
PAP (Picture and Picture) View allows you to select multiple regions from one image to zoom.



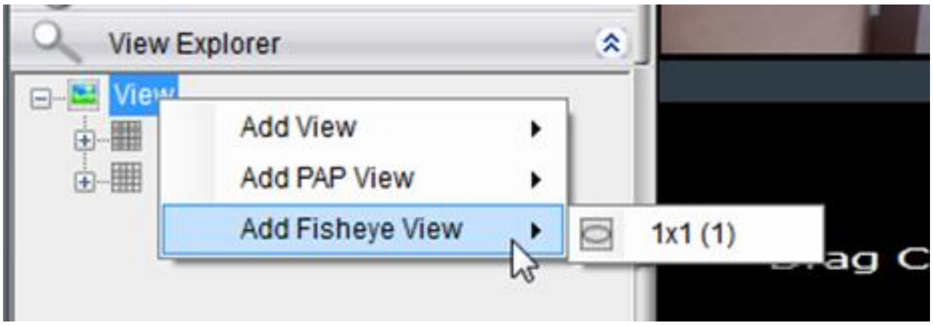
1. Right-click the **View** entry in the View Explorer window. This will bring up an options popup.
2. Select “Add PAP View” and then select the desired window number. 1 indicates the main original image and the number behind “+” means the numbers of the zoomed areas that you are about to create. For example, 1+8 means 1 main original image + 8 zoomed areas.
3. Drag the set value from the View Explorer to the main image window.
4. Drag the desired camera from the Device Browser to the main image window. Images from the camera you dragged will appear on the main image window.
5. Move your mouse to select one window from the zoomed windows on the right. From the main image window use your mouse to drag out an area you’d like to zoom for the selected zoomed window. Zoomed images will appear on the zoomed windows.
6. Repeat Step 5 to create more zoomed areas; 8 zoomed areas can be created when you set the PAP view to 1+8.
7. Move the cursor to the box of the unwanted region and left click to see the options, Clear Region (clear 1 selected region)/ Clear All (clear every created region).

7.2.4. Add Fisheye View

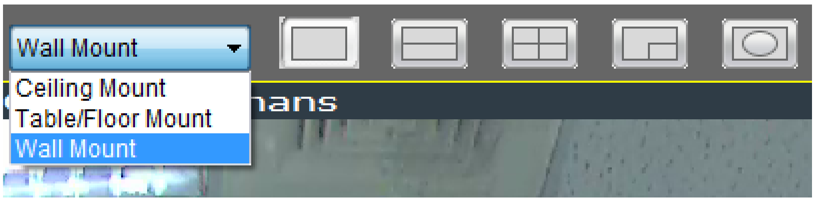
Viewing angles are crucial for fisheye cameras to capture images and different installation method can affect the viewing angles. Fisheye viewing is supported in VMS.



1. Right-click the **View** entry in the View Explorer window. This will bring up an options popup.
2. Select “Add Fisheye View” and then “1x1(1)”.



3. Drag the desired camera from the Device Browser to the main window. Images from the camera you dragged will appear on the main image window.
4. Select according to the way your fisheye is installed to have a best viewing result, Ceiling Mount, Table/Floor Mount or Wall Mount.



5. The distorted hemispherical image of the fisheye camera can be converted into a conventional rectilinear projection ▭, a split-window⊟, a 4 split-window ⊞, and the original fisheye view ◎.

7.2.5. Renaming a View

To perform this function:

1. Right-click the view entry in the *View Explorer* window. This will bring up an options popup.
2. Highlight and click the **Rename** option.
3. Enter a new name for the server and press enter to save the name.

7.2.6. Deleting a View

As views become superfluous or unused, it is desirable to delete a view. To perform this function:

1. Right-click the view entry in the *View Explorer* window. This will bring up an options popup.
2. Highlight and click the **Delete** option. The system will respond with a confirmation screen.
3. Click the **Yes** button to delete the view.

7.2.7. Sending View to a New Window

In multi-monitor setups, you may send views to a separate window which can then be dragged to other screens. To do this:

1. Right-click the view entry in the *View Explorer* window. This will bring up an options popup.
2. Highlight and click the **Send View To > Floating Window** option. The system will respond by placing the view in a separate floating window. This window can be dragged to a separate screen, maximized, or closed.

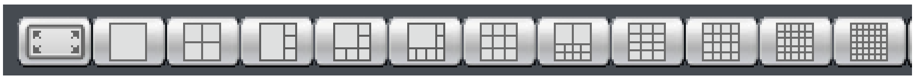
7.2.8. Switching Between Views

To switch between saved views, simply click and drag the view entry from the *View Explorer* window into the main view window. Note that the current view is always indicated in **Bold** lettering in the *View Explorer* window.

7.2.9. Switching Between Different Screen Divisions

Creating and Using New Screen Divisions

When a view is created, it has a default screen division setting, however when using the view, it may be useful to change the number of screen divisions. This does not create a different view, but divides the existing view into a new set of divisions.

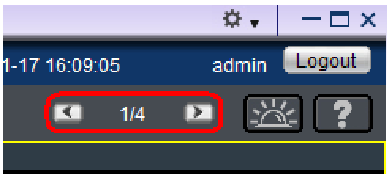


To perform this function within the view, simply click the button corresponding to the view that you want to use. The buttons are located in the area above the main view window.

After you have clicked on the desired view, the original number of cameras will be split into separate pages in the new view. For example, an original view consisting of 16 cameras would display the cameras on 2 pages of 8 frames, clicking on the 4 division button would display the 16 cameras in 4 pages of 4 frames each.

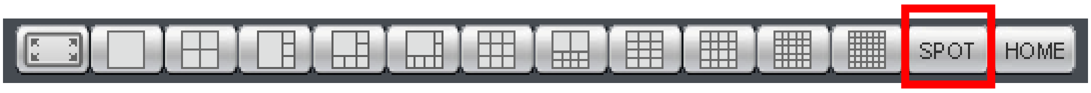
Screen Division Page Use

The page number is displayed to the right of the view buttons. Clicking on the arrow button to the right of the page number or clicking on the current screen partition button will scroll through the pages in order. Clicking on the arrow button to the left of the page number will scroll through the pages in reverse order.



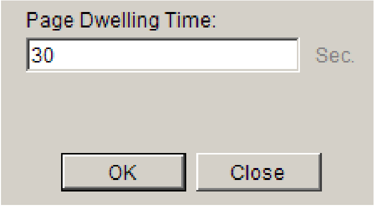
Auto-flipping Pages

When multiple pages of screen divisions exist, you may choose to automatically flip between the pages by clicking on the **SPOT** button. Clicking the button again will end the automatic flip function.



Configuring Page Dwell Time

Right-clicking the **SPOT** button will bring up a field to configure the amount of time each page will be displayed when automatically flipping pages. Enter the dwell time in seconds and click **OK** to change this value.

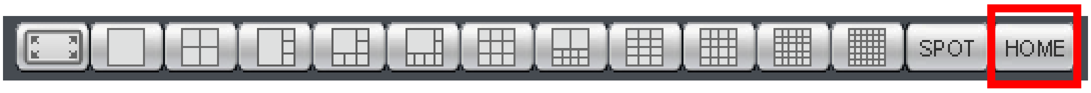


Page Dwelling Time:

30 Sec.

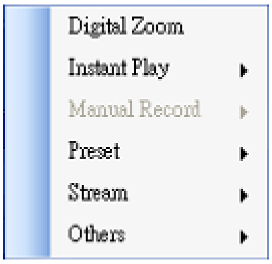
Exiting Different Screen Divisions

There are two methods to return to your original un-paginated view. You may either drag the original view into the main view area, or click the **Home** button in the button area. This will reset all the settings, including page auto-flipping and different screen divisions.



7.3. Functionality Within Views

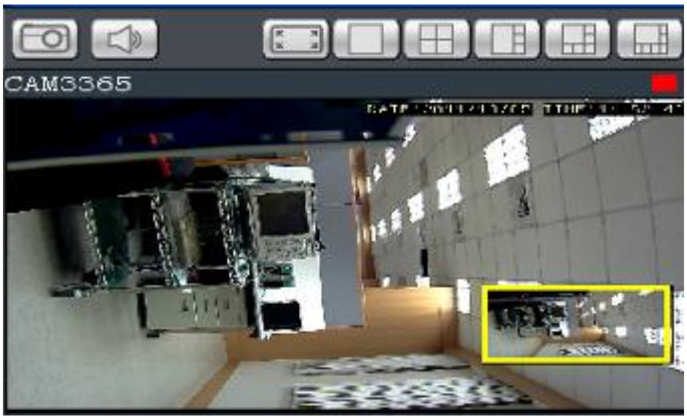
Right clicking an active window will cause a function list to appear. These are settings and functions that can be changed within the live-view window.



7.3.1. Digital Zoom

Digital zoom increases the view size without increasing resolution. The digital zoom function can be used within any panel (even in full screen mode) with the following steps:

1. Right-click the panel that zoom is required on, and select **Digital Zoom** to activate the function. A picture-in-picture showing the whole screen framed by a yellow box will appear.

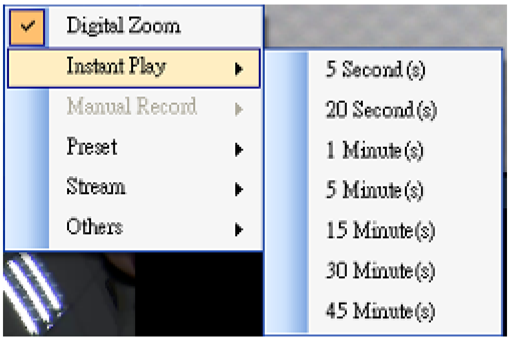


2. Click the corners of the box and drag to resize it over the area of interest. The main picture will show the digitally-zoomed output, while the picture and picture will display the entire view.

3. Alternatively, you may use the mouse scroll to zoom into the center of the image. Scrolling forward will zoom in, scrolling backward will zoom out.

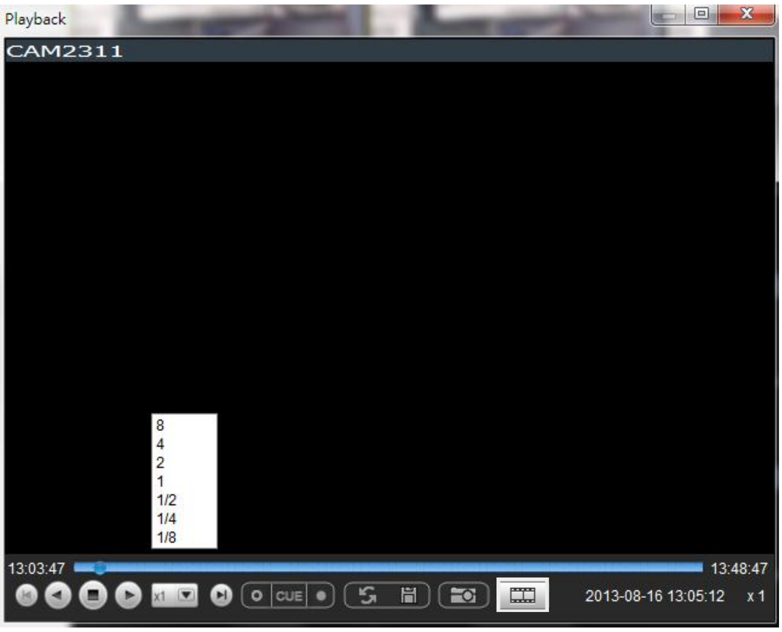
7.3.2. Instant Playback

The instant playback function gives users the ability to instantly playback up to 45 minutes of video. Right-click the panel that playback is required on, and select **Instant Play > [Time Length]** to activate the function. A popup will open with the desired playback. Time lengths available are dependent on, and will not exceed the pre-alarm recording time set in Pre/Post Alarm Recording Settings.

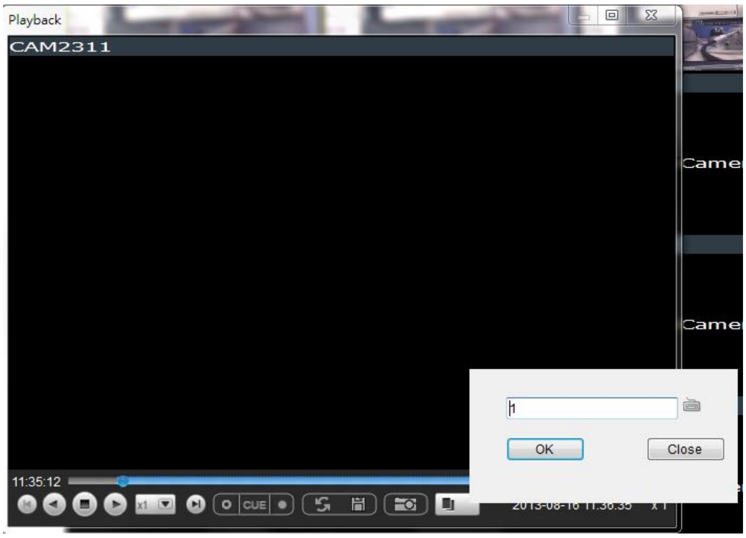


Playback can be displayed in 3 modes, Real Time , Frame By Frame , and Just Key Frame . The default setting is in Real Time Mode, clicking on the button to change modes.

”Real Time” can be further defined to play in the speeds of 8x, 4x, 2x, 1x, 1/2x, 1/4x, and 1/8x.

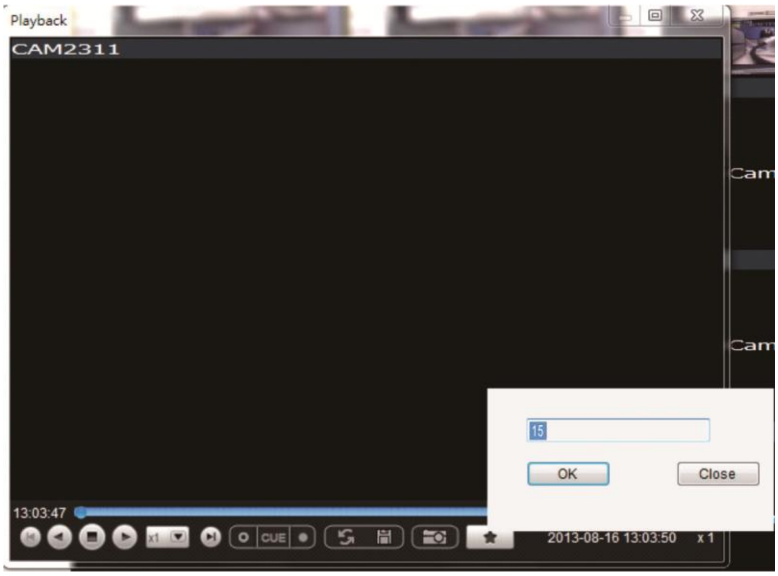


"Frame By Frame" can be further defined to play in intervals from 1 to 15. Right click on the "Frame By Frame Mode" button to set the interval.



1

★"Just Key Frame" can be further defined to play in intervals from 1 to 15. Right click on the "Just Key Frame Mode" button to set the interval.



15

The following table explains the buttons:

▶	Starts video playback.
◀	Reverses video playback.
■	Stops video playback.
▶|	Jumps to the next segment.
|◀	Jumps to the previous segment.
CUE	Clears the cue-in and cue-out markers.
○	Set Cue-In marker for clip start
●	Set Cue-Out marker for clip end
↻	Loop, continuous playback within Cue-In & Cue-Out
⇄	Enable / Disenable loop. Loop to continuous playback within Cue-In & Cue-Out.
💾	Saves video clips/Exports selected clips.
📷	Snapshot
🎞	Real time mode
⧉	Frame by frame mode
★	Just key frame mode

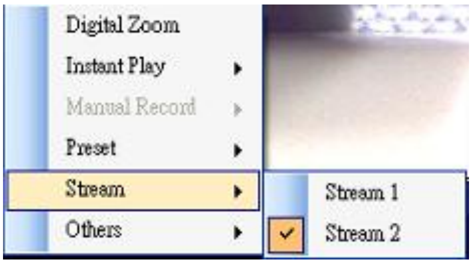
7.3.3. Manual Recording

When recording schedules are set, it may be necessary to manually record a video stream, even when the schedule does not specify for recording. In this case right-click the panel that recording is required on, and select **Manual Record > [5, 10 or 30 minutes]** to activate the function. The camera will record the stream for the amount of time specified.

7.3.4. Preset Pan

In cameras equipped with PTZ functionalities, presets set on the camera in the PTZ Preset Settings will be available. To access the presets, right-click on the panel containing the camera feed, and mouse-over **Preset**. The system will respond with a list of presets configured on the camera. Selecting a preset will pan the camera to the preset position.

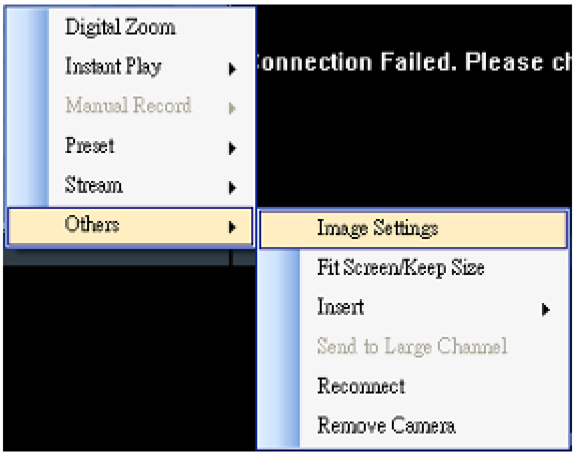
7.3.5. Stream Selection



Video Streams can be selected by right-clicking the panel that playback is required on, and then select **Stream > Stream1/Stream2**.

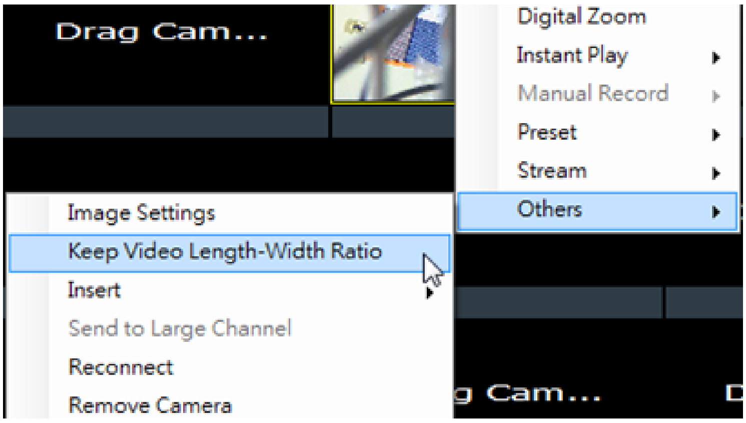
7.3.6. Image Settings

Camera image settings can also be accessed by right-clicking the panel containing the camera video and selecting **Others > Image Settings**. This will pull up the camera image settings menu.



7.3.7. Video Ratio Adjustment

In most cases the video panel size will not match the size of the video feed exactly. By default the VMS will stretch or shrink the video to fit the screen, however you may also choose to preserve the original video ratio by right-clicking the screen and selecting **Others > Keep Video Length-Width Ratio**. To return to a stretched view, right-click the appropriate panel and choose **Others > Resize to Fit Window**.



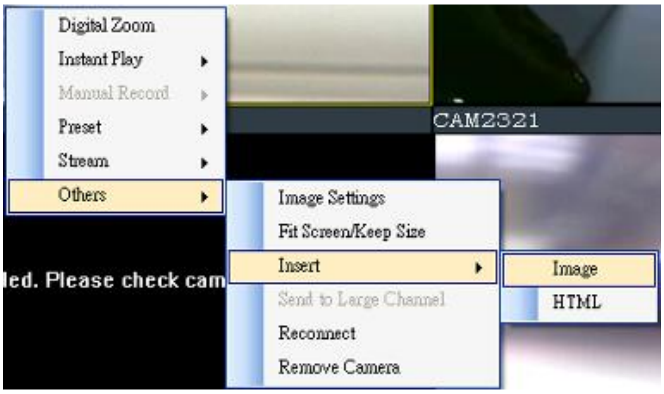
7.3.8. Inserting Overlays

The panel can be replaced with a user overlay.

Image Overlay

To overlay an image on top of a panel:

1. Right-click the panel and choose **Others > Insert > Image.** The system will prompt you to choose an image file.



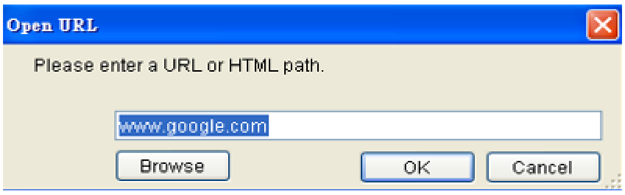
2. Choose an image file, valid image types are JPEG, BMP, TIF, PNG. Click **Open** to open the file.

3. The image will be displayed in the panel. Click the red X in the top-right corner to close the image.

HTML Overlay

The HTML overlay function allows simple integration of web applications in the VMS by replacing one or more panels of the screen with an active browsing window. To overlay an HTML form or website on top of a panel:

1. Right-click the panel and choose **Others** > **Insert** > **HTML**.



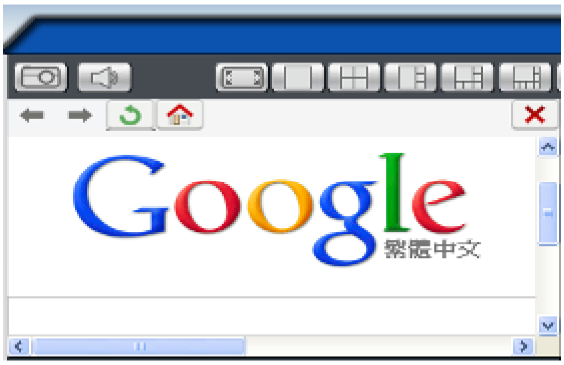
Open URL

Please enter a URL or HTML path.

www.google.com

2. In the field, enter a URL or the path containing the HTML form. You may also choose to click **Browse** and choose an HTML file.

3. The HTML or website will be displayed in the panel. Click the red X in the top-right corner to close the image.

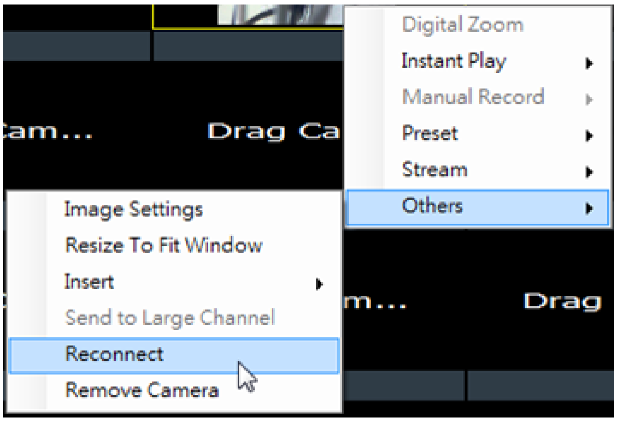


7.3.9. Send to Large Channel

Views in smaller divisions can be switched to the larger division. To perform this action, right-click the panel corresponding to the camera and choose **Others** > **Send to Large Channel.**

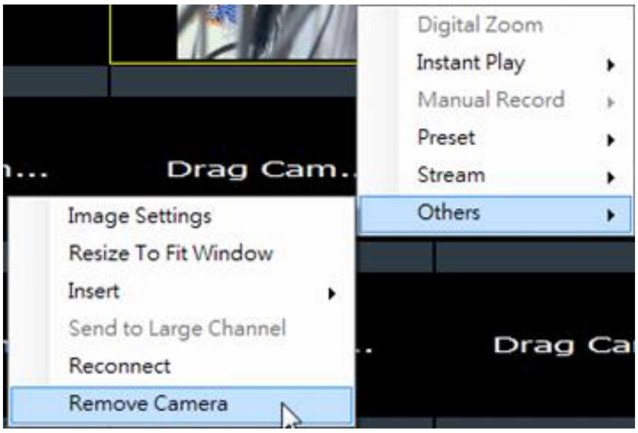
7.3.10. Reconnect

In some cases it may be necessary to manually reset the connection to a camera. To perform this action, right-click the panel corresponding to the camera and choose **Others > Reconnect.**



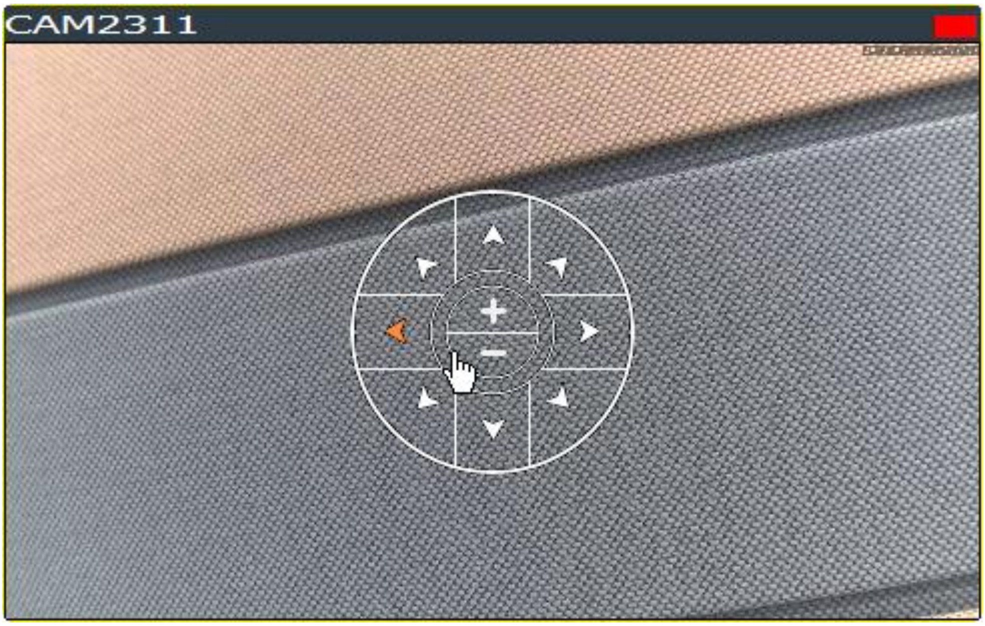
7.3.11. Remove the Camera

The Cameras can be removed by clicking **Others > Remove Camera.**



7.3.12. Onscreen PTZ Control

Cameras equipped with Pan-Tilt-Zoom functionality can be controlled directly within the VMS client software. These controls can be found within live views whenever the cursor comes closer to the image panel, the onscreen PTZ control will appear.



Pan and Tilt

The pan and tilt functionalities can be controlled with the directional pad.

Clicking the right or left arrow will pan the camera by one step in the direction clicked. Clicking the up or down arrow will tilt the camera by one step in the direction clicked. Clicking diagonal arrows will combine the pan and tilt action of the adjacent arrows.

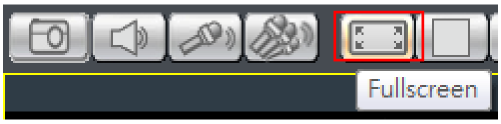
Zoom

The zoom on a camera can be controlled with the + and – buttons located inside the direction pad. Pressing the + button will increase zoom distance by 1 step. Pressing the - button will decrease zoom distance by one step.

7.4. Full Screen View

7.4.1. Entering Full Screen View

From any view, you can switch to full screen mode by clicking on the full screen button located above the main viewing window. Optionally you may also choose to view a single frame in full screen mode by double clicking on the frame.



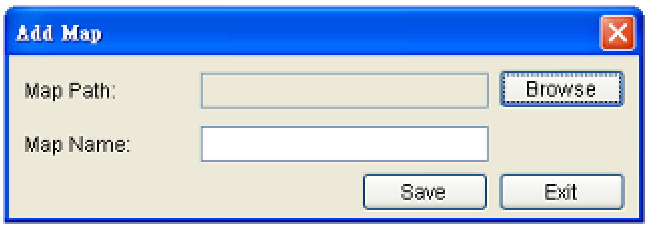
7.4.2. Exiting Full Screen Mode

To exit full screen mode, hit the **ESC** key on your keyboard.

7.5. E-Maps

7.5.1. Adding E-Maps

1. Prepare layout drawings or a map of the area being surveyed.
2. Right click on **E-Map Configuration** in the *E-map Explorer* window, Click **Add** under the *E-map* tab.



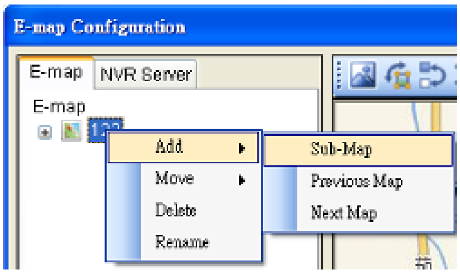
3. Click the **Browse** button to open a windows dialog. Select your map and click the **Open** button. The drawing will be stored in the Server.
4. Enter a name for the map in the **Map Name** field.
5. Click **Save**. Once successfully added, an E-map node will appear.

Note: The E-Maps can also be edited by clicking ***Server > General Tasks > E-map*** or ***Server Entry > Common Tasks > Common Server Tasks > E-map*** in the VMS Console.

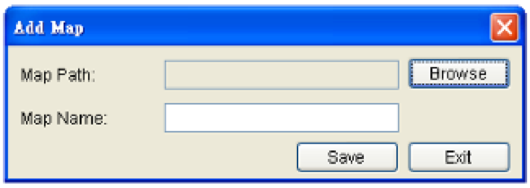
7.5.2. Adding Sub-Maps

Sub-maps can be used when separate areas within a large maps are complicated enough to have their own specific layout.

1. Prepare layout drawings or a map of the area being surveyed.
2. In the **E-map configuration** screen, under the *E-map* tab, right-click the node that you wish to add a sub-map to, and select **Add > Sub-Map**.



3. Click the **Browse** button to open a windows dialog. Select your map and click the **Open** button. The drawing will be stored in the Server.

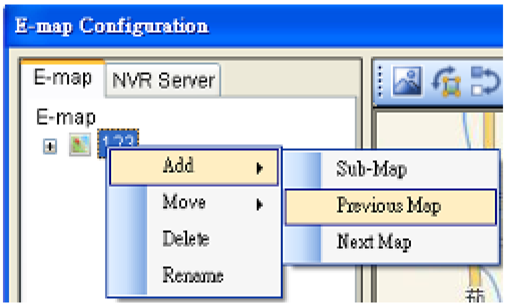


4. Enter a name for the map in the **Map Name** field.
5. Click **Save**. Once successfully added, an E-map node will appear as a sub-node on the tree panel. A link with the sub-map name will also be placed on the root map.

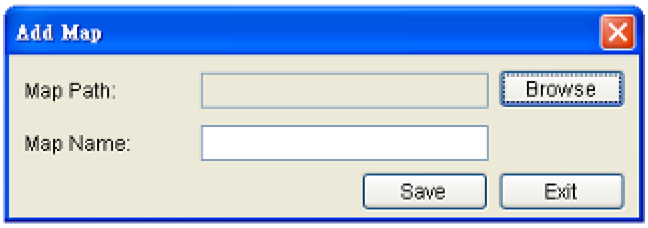
7.5.3. Adding Additional E-Maps

The typical E-map **Add** function will add new maps to the end of the list. You may choose to add a map before or after an existing map by:

1. Prepare layout drawings or a map of the area being surveyed.
2. In the E-map configuration screen, under the *E-map* tab, right-click the node which you want to add a map before or after. Choose **Add > Previous Map** to add a map before the selected map, or choose **Add > Next Map** to add a map after the selected map.



3. Click the **Browse** button to open a windows dialog. Select your map and click the **Open** button. The drawing will be stored in the Server.



4. Enter a name for the map in the **Map Name** field.

5. Click **Save**. Once successfully added, an E-map node will appear as in the tree panel.

In the e-maps list, it is recommended to organize your e-maps in a logical order.

7.5.4. Changing E-Map Order

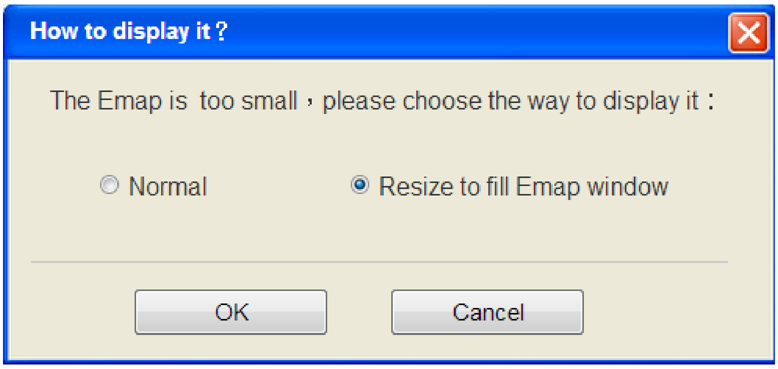
To re-order the e-maps you have added, right-click the node which you want to move. Choose **Move** > **Previous Map** to move the selected map up the list, or choose **Move** > **Next Map** to move the selected map down the list.

7.5.5. Renaming an E-Map

To rename an e-map you have added, right-click the node which you want to delete and choose **Rename**. Enter a new name for the map and press enter to save your changes.

7.5.6. Configuring an E-Map

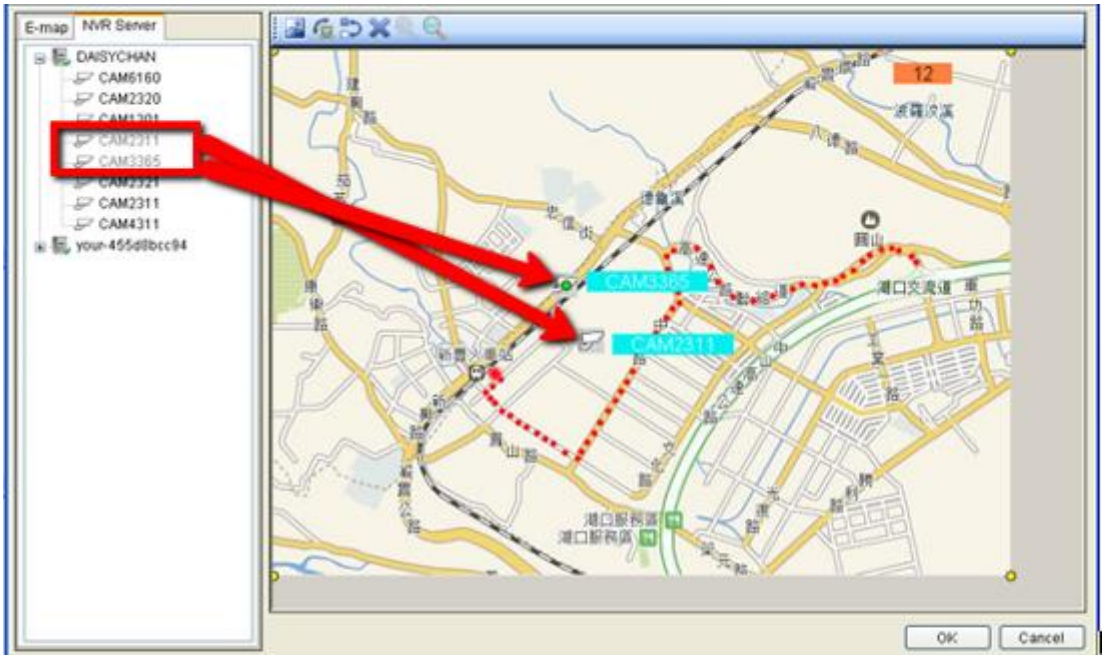
1. Select an E-map entry clicking it.
2. Click the *NVR Server* tab to bring up a list of the cameras available for placement.
3. Drag and drop cameras to anywhere on the layout drawing. The map may be moved by clicking and dragging the map, you may also zoom in and out using the buttons above the map display. If the map size is lower than 396x247, you'll be prompted to select Normal or Resize to fill Emap window. The default setting is Resize to fill Emap window.



How to display it ?

The Emap is too small，please choose the way to display it：

○ Normal ● Resize to fill Emap window



4. Once a camera icon is placed, it may be rotated by clicking one of the dotted corners of the camera icon.
5. You may save any time by clicking on the **Save** button located above the map display.

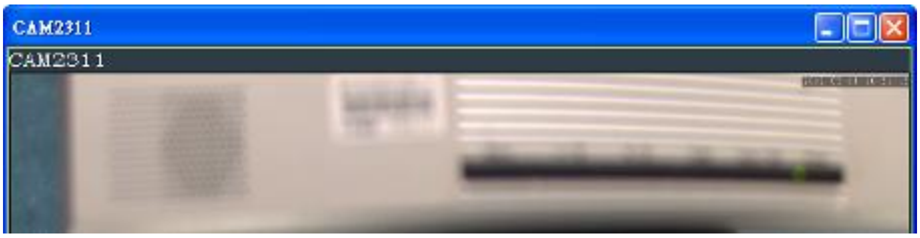
7.5.7. Deleting an E-Map

To delete an e-map you have added, right-click the node which you want to delete and choose **Delete**. This action will delete the node and any sub-nodes from the map list.

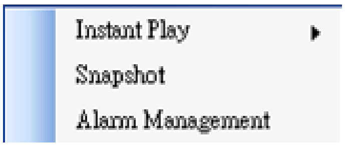
7.5.8. Using the E-Map

Once E-Maps have been configured on the system, you can pull up an E-Map by double clicking its entry in the *E-Maps* section of the Live View screen. This will open the E-Map in a floating window.

Double-clicking on any camera icon that has been placed on the map will bring a live view screen for this camera.



You can choose to do instant playback, snapshot capture and alarm management by right clicking on the live view screen.



The camera icons that have been placed on the map will blink if there is an alarm associated with it. Double-click on any camera icon to bring up a live video feed in a popup window.

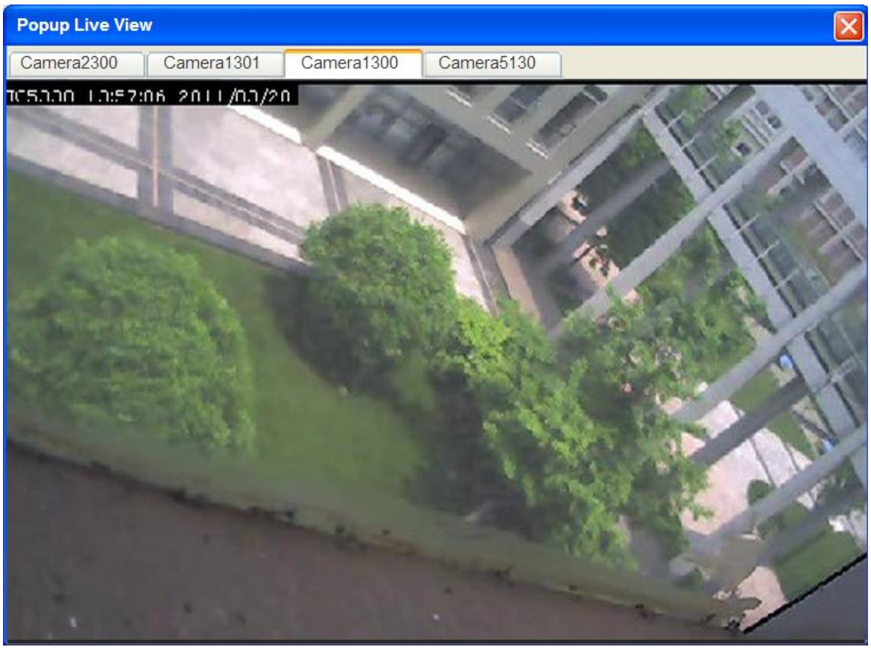
There are also a few buttons associated with this view:

Zoom Out: Located at the bottom mid-left. This button shrinks the background map display.

Zoom In: Located at the bottom mid-right. This button enlarges the background map display.

Arrows: Located on the top left. Use the arrow keys to move from map levels.

Up to 4 cameras can be popped up at the same time, when there's any alarm triggered. If there's a fifth alarm occurs, the VMS will close the oldest popup window and show the new popup.



Chapter 8. Server Setup

This section deals with Server setup procedures.

8.1. Server Basic Functions

When you are logged into a domain, the Servers configured on the domain will appear in the *Device Browser* area. The icon by the Server shows the current connection state of the Server.

Icon	Meaning
✗	The Server cannot be reached
⊘	The Server can be reached, but the user is not logged in
✓	The user is logged in to the Server

8.1.1. Logging into a Server

1. Right-click the server entry in the *Device Browser* window to bring up the options popup.

2. Highlight and click the **Login** option. As long as the credentials supplied at the beginning of the session are correct, you will be automatically logged in.

8.1.2. Logging out of a Server

1. Right-click the server entry in the *Device Browser* window to bring up the options popup.

2. Highlight and click the **Logout** option to bring up the logout dialog box.

3. Press the **Yes** button to logout.

Note: Logging out of the domain server will cause the client to logout completely.

8.1.3. Renaming a Server

You must be connected to a server as an admin to rename it. To rename a Server:

1. Right-click the server entry in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Configuration** > **Rename** option.
3. Type the new name in the box that appears.

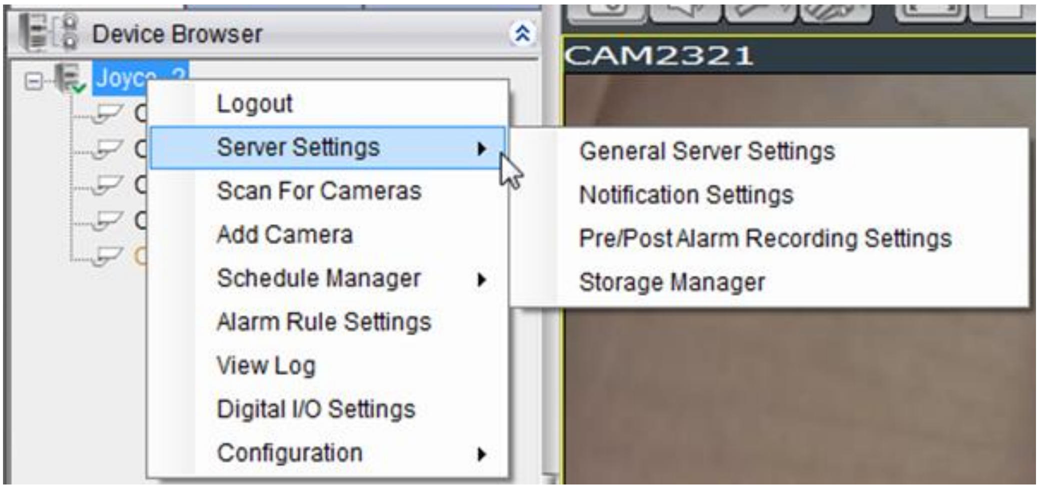
8.1.4. Viewing Server and Client Information

1. Right-click the server entry in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Configuration** > **About** option to bring up the *About* dialog box.
3. Click **OK** when finished viewing.

Note: The Server and Client information can also be viewed by clicking ***Others*** > ***Other Tasks*** > ***About*** in the VMS Console.

8.2. Server Settings

The following sections deal with Server settings that can be configured under the *Server Settings* menu.

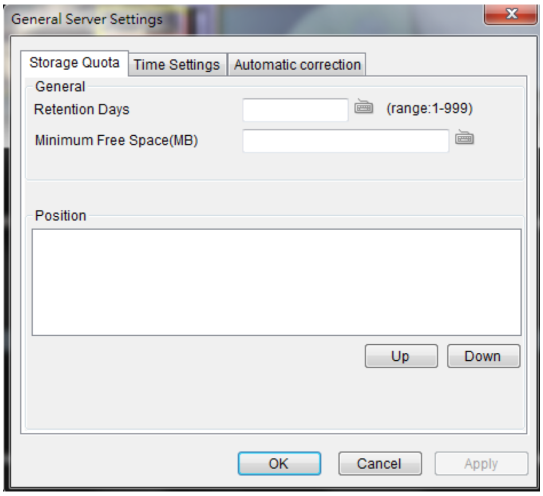


8.2.1. General Server Settings

Server general setup procedures involve configuring both storage and server time settings. To perform Server general setup:

Right-click the Server entry in the *Device Browser*, highlight and click the **Server Settings > General Server Settings** option. A tabbed window will appear providing the following configuration tabs: *Storage Quota*, *Time Settings*, *Automatic Correction*.

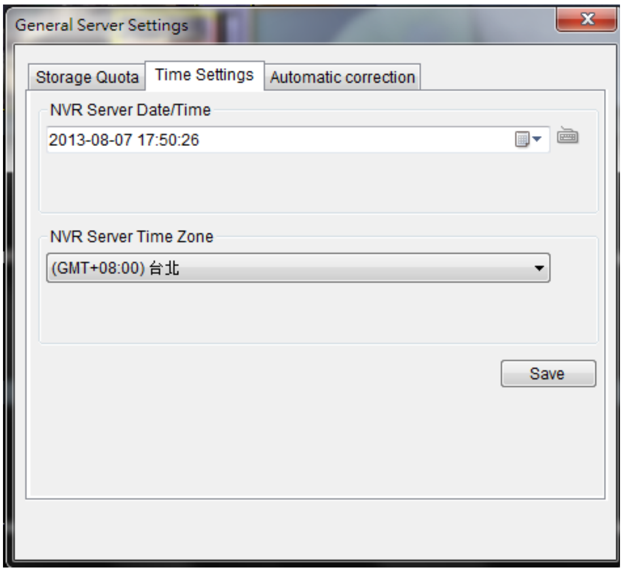
1. **Storage Quota**



In the **Minimum Free Space** field, the Minimum space required for storage is shown. The storage will be last for 3 days. You may move the saving locations up and down the list using the **Up** and **Down** buttons, to change the storage priorities.

2. Time Settings

To set the server time click on the number you wish to change and enter a value. Click **OK** to preserve the setting. The default time is set according to the real-time clock on server.



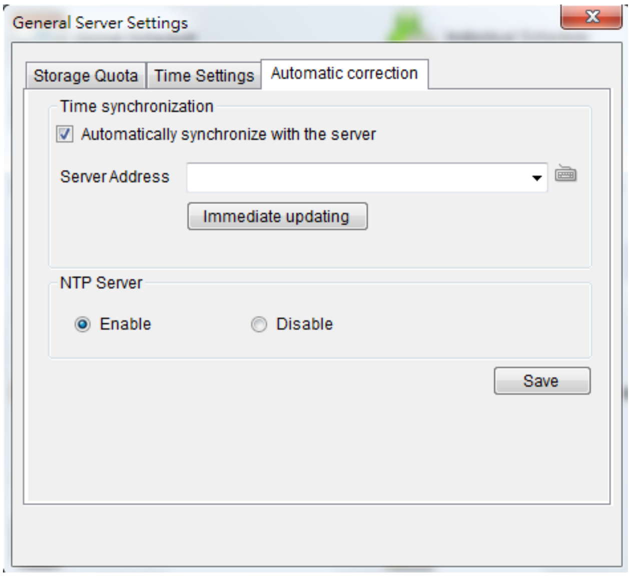
NVR Server Date/Time

2013-08-07 17:50:26

NVR Server Time Zone

(GMT+08:00) 台北

3. Automatic Correction



Time synchronization

☑ Automatically synchronize with the server

Server Address

NTP Server

● Enable ○ Disable

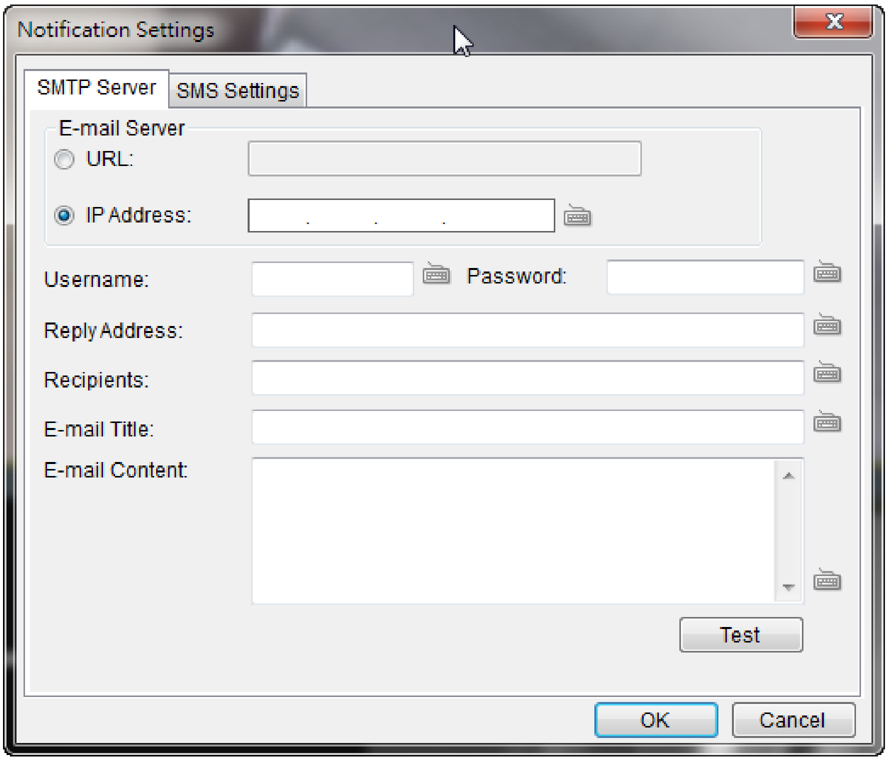
Time can be synchronized with a chosen server, typing the desired server IP address in the blank.

Select “Enable” to set your SMR/NVR device as your NTP Server and the camera time can be synchronized with your SMR/NVR device. Click **OK** to finish the configuration.

Note: General Server Settings can also be configured by clicking ***Server > General Tasks > General Server Settings*** in the VMS Console.

8.2.2. To perform Notification Setting

1. Right-click the Server entry in the *Device Browser* highlight and click the **Server Settings> Notification Setting** option. A tabbed window will appear prompt providing the following configuration tabs: *SMTP Server* and *SMS Settings*. The window starts with the *SMTP Server* tab displayed.



2. In the *SMTP Server* tab, under the *E-mail Server* heading, you may either enter the URL (such as smtp.abc.com) or IP address of the SMTP server that the Server will use to deliver E-mail notifications. The SMTP server configured here must support Unicode Transformation Format-8 (UTF-8) encoding.

3. Enter the user name for the Server email account in the **Username** field.

4. Enter the password for the Server email account in the **Password** field.

5. Enter a valid E-mail address in the **Reply Address** field. This address will be the default sender listed in E-mails sent from the Server.

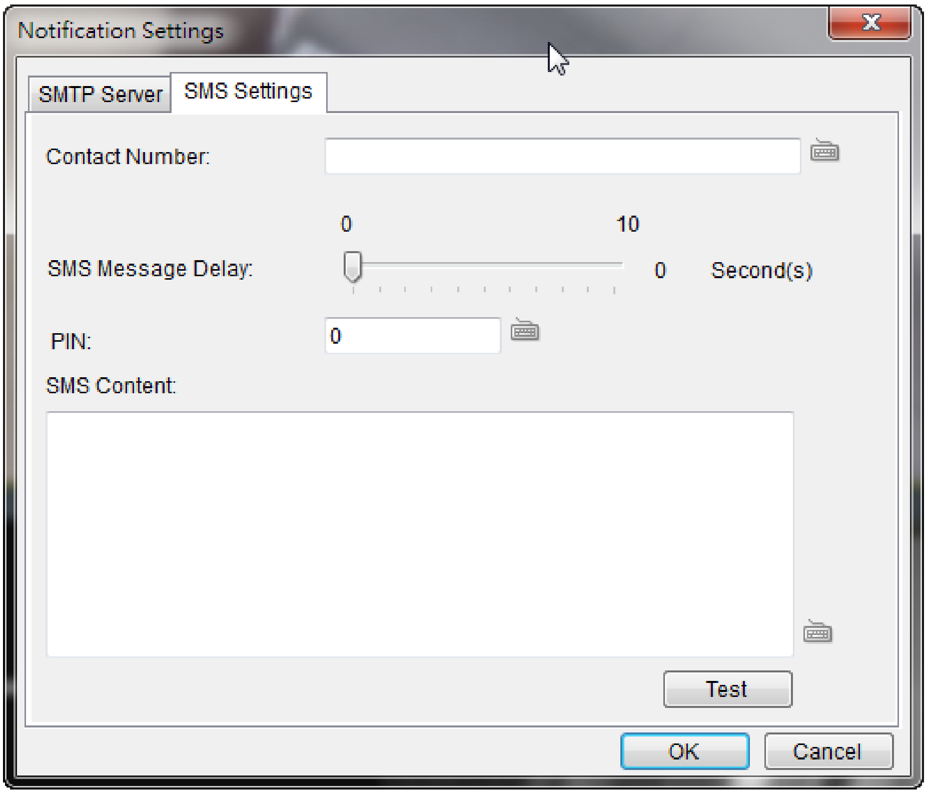
6. Enter one or more E-mail addresses in the **Recipients**: field. These address(es) will receive notifications from the Server. Multiple addresses can be entered by separating individual addresses with semi -colons “;”.

7. Enter the subject of your notification E-mails, e.g., Server-xxxsite1notification in the **E- Mail Title** field.

8. Enter a short message in the large field to describe the Server or a surveillance network.

9. **(Optional)** Click **Test** to send a test message to the E-mail addresses listed.

10. Click the *SMS Settings* tab to continue.



Notification Settings

Contact Number:

SMS Message Delay: 0 10 0 Second(s)

PIN: 0

SMS Content:

Note: Drivers for supported GSM/GPRS modems have already been installed on the server. Currently, only the **WaveCOM-M1206B** is supported. Use COM1 on the Server to connect to a GSM modem.

11. In the **Contact Number** field, enter the phone numbers that will receive SMS notifications. Be sure to include the area code, e.g., “86”, in front of phone numbers. Use commas, “,” to separate individual phone numbers.

12. Use the slider bar to select a delay between the occurrence of an event and SMS message delivery.

13. **(Optional)** If a SIM PIN is required, enter the PIN code in the **PIN** field. Note that applying incorrect PIN code may disable your SIM card.

Note: To change the PIN code, remove the SIM card from your GSM modem. Use a cell phone to change the PIN code and then re -install SIM card into the GSM modem. Changing PIN codes is not recommended because a configuration failure may disable your SIM card.

14. In the **SMS Content** field, type a simple description to include in the outgoing SMS messages

15. **(Optional)** Click **Test** to send a test message to the phone numbers listed.

16. Click the **Apply** button to apply the changes.

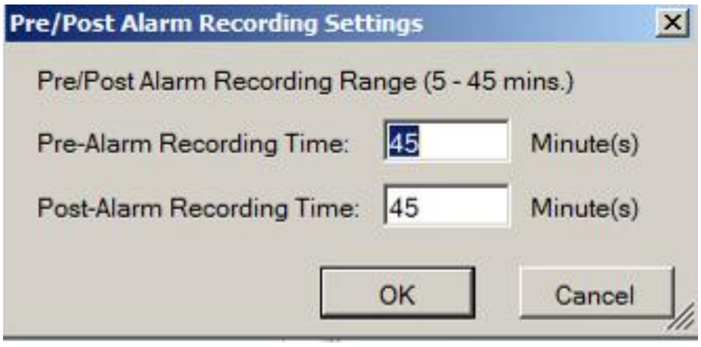
17. Click the **OK** button to exit E-mail/SMS settings.

Note: E-mail and SMS Settings can also be done by clicking ***Server > General Tasks > E-mail/SMS*** in the VMS Console.

8.2.3. Pre/Post Alarm Recording Settings

Video streams are constantly processed and cached in memory. The Server can trace back and preserve video/images from several minutes before and after the occurrence of an alarm.

To configure pre/post-alarm recording times, highlight and click the **Pre/Post Alarm Recording Settings** option under **Server Settings**. The following pop-up window will appear:


Pre/Post Alarm Recording Settings

Pre/Post Alarm Recording Range (5 - 45 mins.)

Pre-Alarm Recording Time: 45 Minute(s)

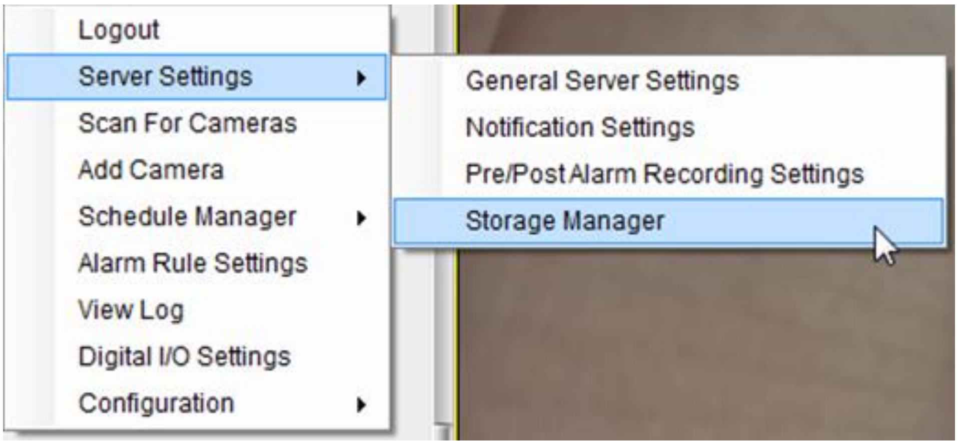
Post-Alarm Recording Time: 45 Minute(s)

In each of the boxes enter values for the Pre and Post-Alarm Recording times from 5 to 45 minutes (default is 45 minutes). Click the **OK** button to finish the process.

Note: Pre/Post Alarm Recording Settings can also be done by clicking ***Server > General Tasks > Pre/Post Alarm Recording Settings*** in the VMS Console.

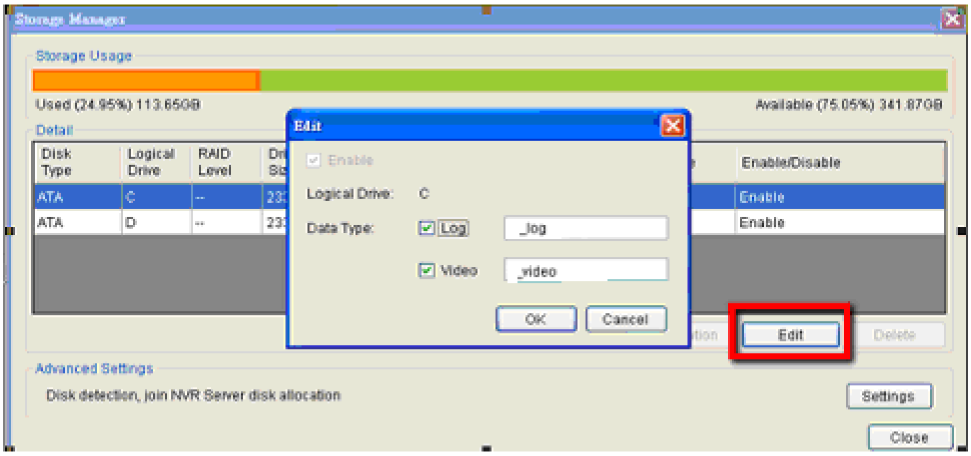
8.2.4. Storage Management

1. To access the information about the drives configured in your Server, highlight and click the **Storage Manager** option under **Server Settings**.



2. All available Logical Drives, as well as their sizes, free space, and status will appear.

   Click **Edit** to set the log and location for saving the video recordings.



Used (24.95%) 113.65GB

Available (75.05%) 341.87GB

Disk Type	Logical Drive	RAID Level	Dri Siz	Enable/Disable
ATA	C	--	23	Enable
ATA	D	--	23	Enable

☑ Enable

Logical Drive: C

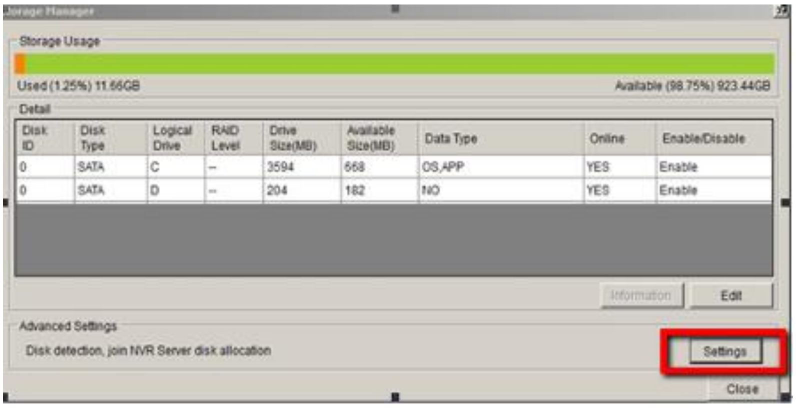
Data Type: ☑ Log _log

☑ Video _video

Disk detection, join NVR Server disk allocation

(Step 3 and 4 are for the remote client of NVR2000/SMR Series.)

3. Click the target drive first and then **Settings.**



Used (1.25%) 11.66GB

Available (98.75%) 923.44GB

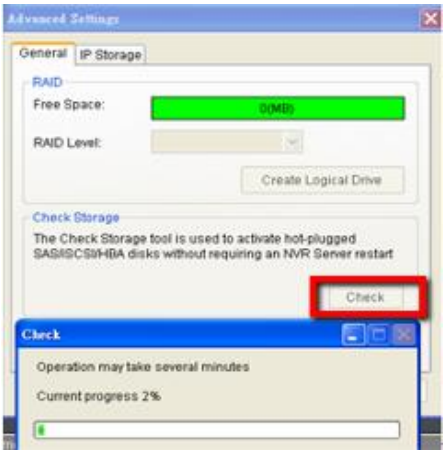
Detail

Disk ID	Disk Type	Logical Drive	RAID Level	Drive Size(MB)	Available Size(MB)	Data Type	Online	Enable/Disable
0	SATA	C	--	3594	668	OS,APP	YES	Enable
0	SATA	D	--	204	182	NO	YES	Enable

Advanced Settings

Disk detection, join NVR Server disk allocation

In “Advanced Settings” dialogue, “General” tab, click **Check**.



Free Space: 0(MB)

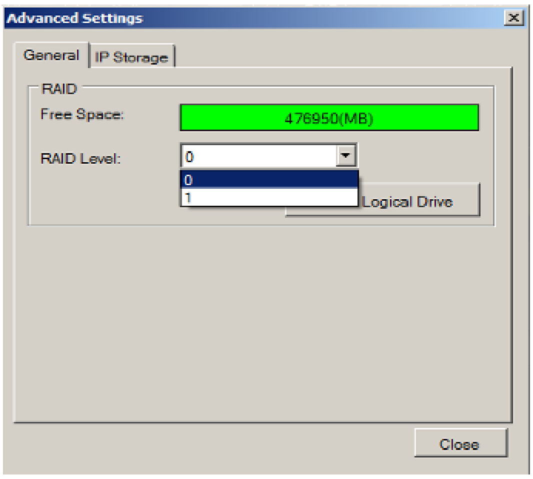
RAID Level:

The Check Storage tool is used to activate hot-plugged SAS/iSCSI/HBA disks without requiring an NVR Server restart

Operation may take several minutes

Current progress 2%

4. Choose the RAID level, and then click Create Logical Drive to create the RAID configuration.



Free Space: 476950(MB)

RAID Level: 0

Note: Storage Manager can also be accessed by clicking ***Server > General Tasks > Storage*** *or* ***Server Entry > Common Tasks > Common Server Tasks > Storage*** in the VMS Console.

8.3. Scheduling Recording

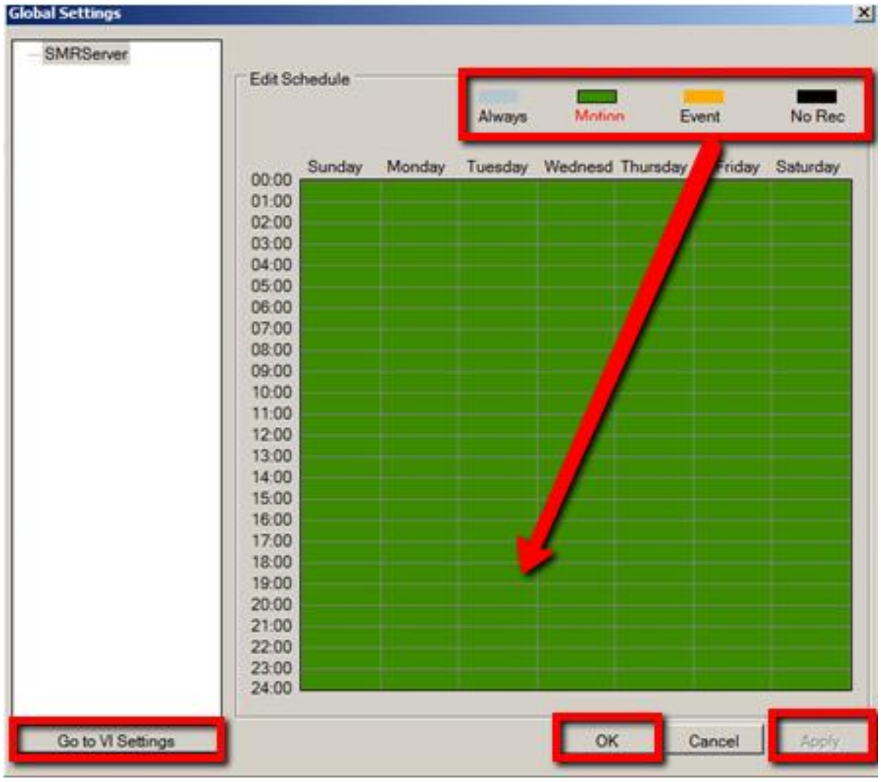
There are two forms of scheduling available. A global schedule can be created to apply to an entire Server, while an individual schedule can be created for each camera on a Server. Schedules are further split into weekly and daily schedules. When scheduling conflicts occur, the daily schedule takes precedence over the weekly schedule.

8.3.1. Global Scheduling

Note: A global schedule can also be set by clicking ***Server*** > ***General Tasks*** > ***Global Schedule*** *or* ***Server Entry*** > ***Common Tasks*** > ***Common Server Tasks*** > ***Storage*** in the VMS Console.

Weekly Global Scheduling

To access the Global Scheduling tool right click the Server entry, then highlight and click the **Schedule Manager** > **Global Settings** option to bring up a popup containing a schedule grid corresponding to every hour of every day in the week. The schedule default is always recording, all the time. To change the global schedule:

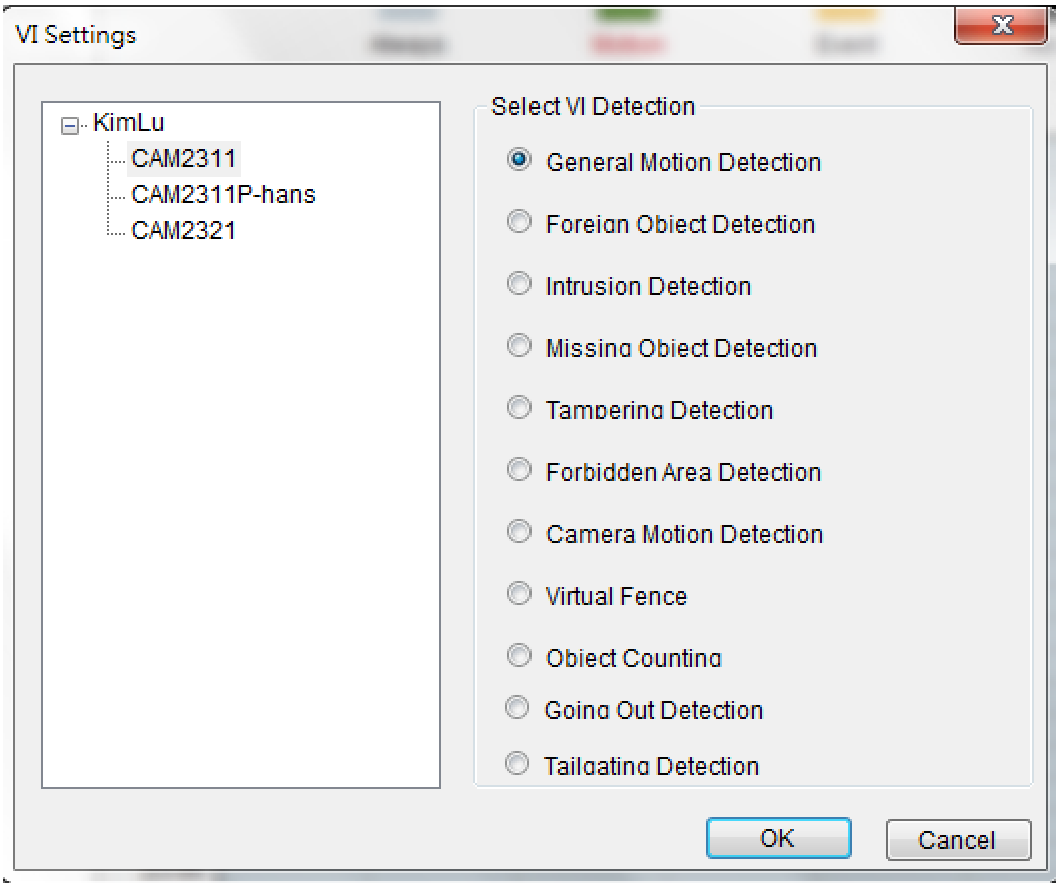


1. Choose a recording method by clicking on one of the four methods: **Always** record or record on **Event** trigger. (You can also keep the default as **Motion** record.)

2. Click on a table cell to “paint” the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.

3. When you are finished, click the **Apply** button to apply the schedule.

4. **(Optional)** You may go to the VI setting panel by clicking **Go to VI Settings.**


VI Settings

KimLu
- CAM2311
- CAM2311P-hans
- CAM2321

Select VI Detection

● General Motion Detection
○ Foreign Object Detection
○ Intrusion Detection
○ Missing Object Detection
○ Tampering Detection
○ Forbidden Area Detection
○ Camera Motion Detection
○ Virtual Fence
○ Object Counting
○ Going Out Detection
○ Tailgating Detection

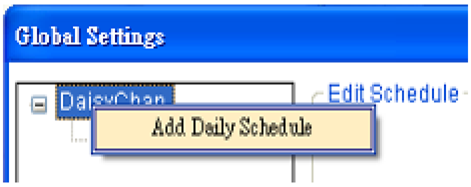
5. Click **OK** to exit the menu.

Daily Global Scheduling

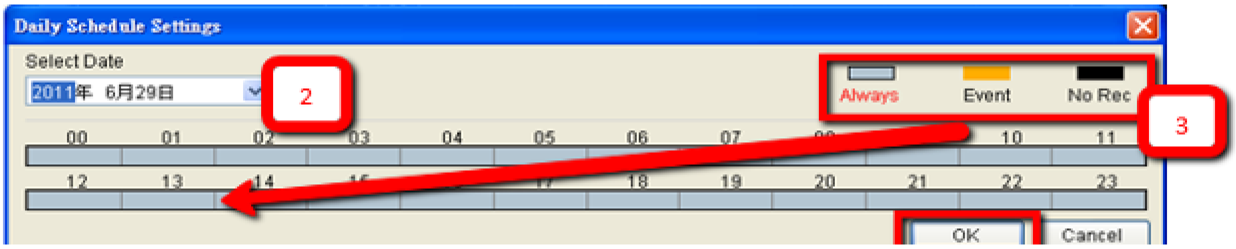
Adding a Daily Global Schedule

In addition to the weekly global schedule, a daily schedule can also be set for a certain day. To perform this action:

1. Under *Global Settings,* right-click the server listing, and click on the **Add Daily Schedule** option to bring up the *Global Daily Schedule Settings* popup. This popup consists of 24 segments corresponding to the hours in the day.



2. Choose the date that you want to schedule.



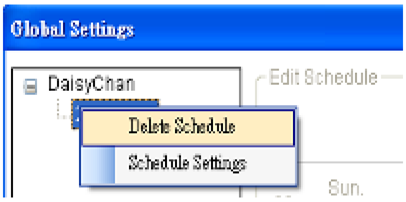
3. Choose a recording method by clicking on one of the three methods: **Always** record, record on **Motion** detection, or record on **Event** trigger.

4. Click on a table cell to “paint” the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.

5. When you are finished, click the **OK** button to apply the schedule. The schedule will show up under the server entry in the *Global Settings* according to the date you have just set.

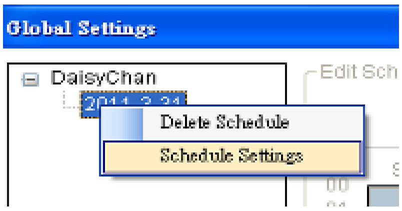
Deleting a Global Daily Schedule

To delete a global daily schedule, right-click the schedule entry and select **Delete Schedule.** Click the **Yes** button to confirm deletion.



Editing a Global Daily Schedule

To edit a global daily schedule, right-click the schedule entry and select **Schedule Settings**.



8.3.2. Individual Scheduling

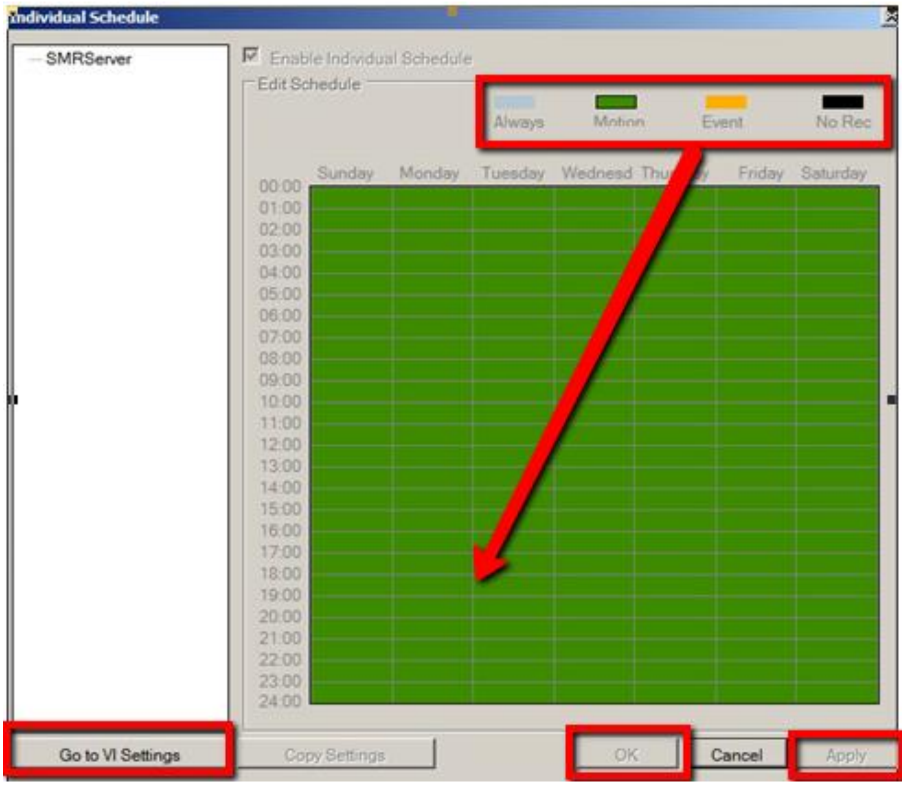
Individual schedules, which take precedence over the global schedule, can be set for each camera.

Note: An individual schedule can also be set by clicking ***Server > General Tasks > Individual Schedule*** in the VMS Console.

Weekly Individual Scheduling

To access the individual scheduling tool right-click the server entry, then highlight and click **Schedule Manager > Individual Schedule.**

Schedule defaults are always recording, all the time. To create a schedule:



1. Select the camera which you want schedule.

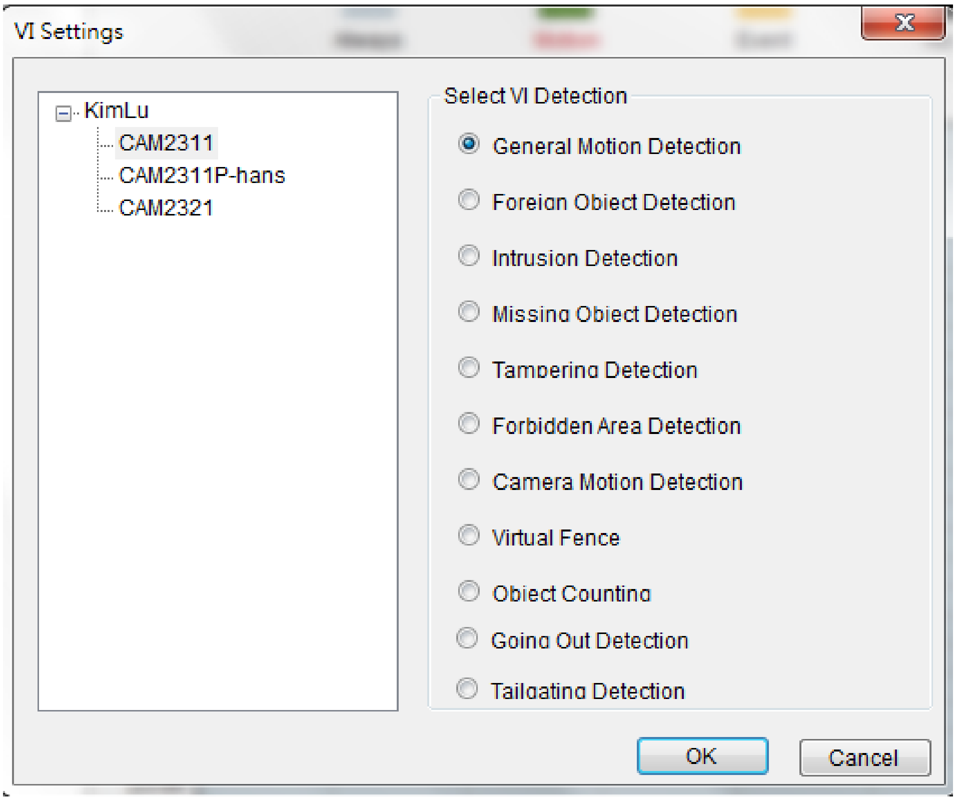
2. Click the **Enable Individual Schedule** box to enable the schedule.

3. Choose a recording method by clicking on one of the four methods: **Always** record, record on **Motion** detection, or record on **Event** trigger. (You can also keep the default as **Motion** record.)

4. Click on a table cell to "paint" the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.

5. When you are finished, click the **Apply** button to apply the schedule. Click **OK** to exit the menu.

6. **(Optional)** You may go to the VI setting panel by clicking **Go to VI Settings.**



VI Settings

- KimLu
  - CAM2311
  - CAM2311P-hans
  - CAM2321

Select VI Detection

● General Motion Detection
○ Foreign Object Detection
○ Intrusion Detection
○ Missing Object Detection
○ Tampering Detection
○ Forbidden Area Detection
○ Camera Motion Detection
○ Virtual Fence
○ Object Counting
○ Going Out Detection
○ Tailgating Detection

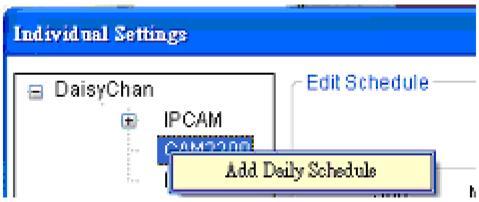
7. Click **OK** to exit the menu.

Daily Individual Scheduling

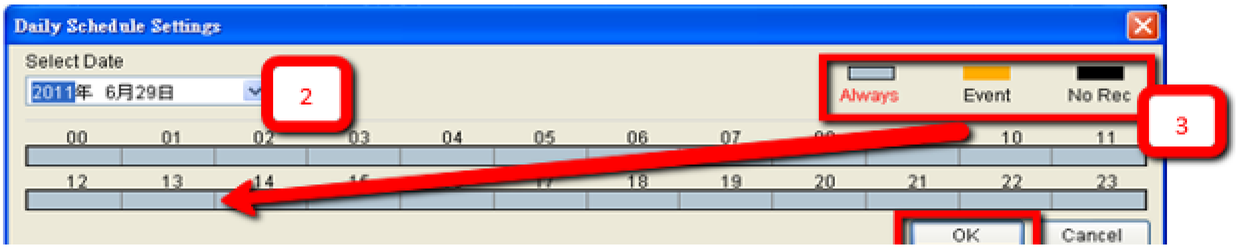
Adding a Daily Individual Schedule

In addition to the weekly individual schedule, a daily schedule can also be set for a certain day. To perform this action:

1. In *Weekly Individual Schedule* right-click the camera listing, and select **Add Daily Schedule** option to bring up the *Individual Daily Schedule Settings* popup. This popup consists of 24 segments corresponding to the hours in the day.



2. Choose the date that you want to schedule



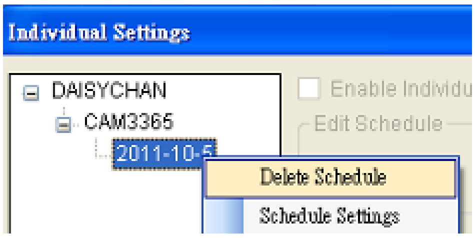
3. Choose a recording method by clicking on one of the three methods: **Always** record, record on **Motion** detection, or record on **Event** trigger.

4. Click on a table cell to "paint" the recording method. The color in the cell will change to match the selected recording method. Click and drag the cursor to paint large areas.

5. When you are finished, click the **OK** button to apply the schedule. The schedule will show up under the camera entry in the *Individual Settings* according to the date you have just set.

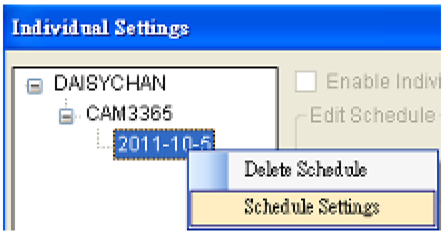
Deleting an Individual Daily Schedule

To delete an individual daily schedule, right-click the schedule entry and select **Delete Daily Schedule.** Click **Yes** to confirm deletion.



Editing an Individual Daily Schedule

To edit an individual daily schedule, right-click the schedule entry and select **Schedule Settings.**



Chapter 9. Camera Setup

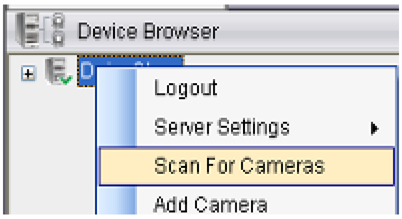
This section deals with Camera setup procedures. These options can be accessed by right-clicking the Camera entry in the *Device Browser*.

8.1. Adding Cameras

Cameras can be added to the Server in two ways, VIA and automatic scan, or by manually inputting the camera information.

9.1.1. Automatic Scan for Cameras

To begin an automatic scan for cameras:



1. Right-click the Server entry and select **Scan for Cameras**. The system will respond by beginning an automatic scan. Once the scan is complete, the cameras that can be added to the Server will be displayed. Information available for each camera will include:

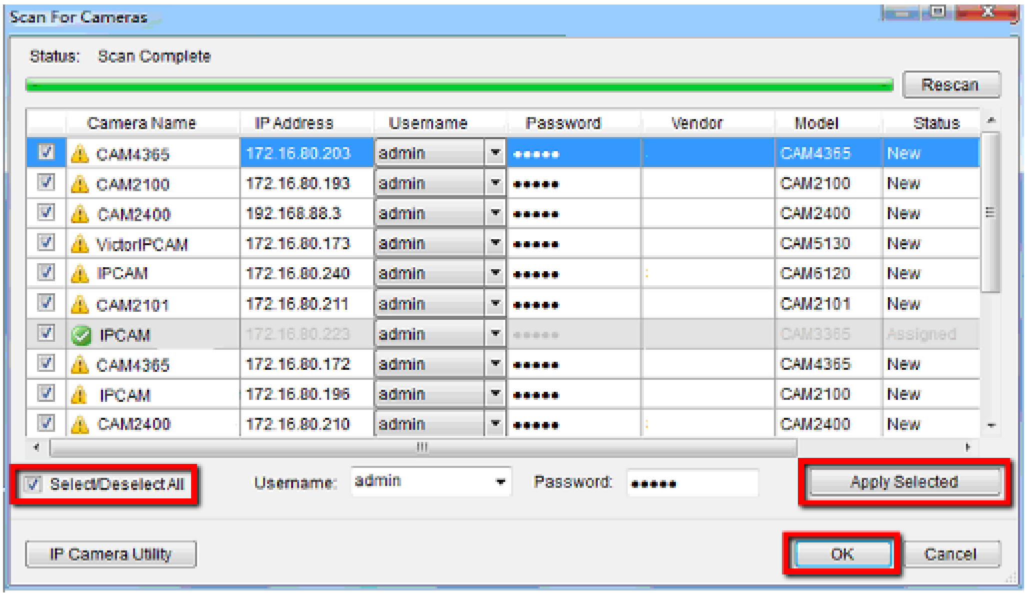
   - **Name** – The default camera name (Make/Model)
   - **Status** – The camera will display *New* if it has not been added to this Server, otherwise it will display *Assigned*.
   - **IP Address**
   - **MAC Address**

   - **Vendor - Including ACTI, ASONI, AVTECH, AXIS, Arecont, Sosch, Brickcom, DyNACOLOR, D_Link, Dahua, EDIMAXHIKVISION, EverFocus, HIKVISION, IQinVision, Lilin, Eessoa, Mobotix, ONVIF, Panasonic, SIMON, SONY, Samsung, Surveon, VIVOTEK, and General.**

- **Model -** when **“General”** is selected, **“RTP over TCP”** and **“RTP over UDP”** can be further defined.

2. To add a camera to the system, check the box by the camera entry. You may also check the **Select All** box at the bottom of the window to select all the cameras found.

   Enter the username and password, and press **Apply Selected**. Click **OK** to add the selected cameras to the Server.



Scan For Cameras

Status: Scan Complete

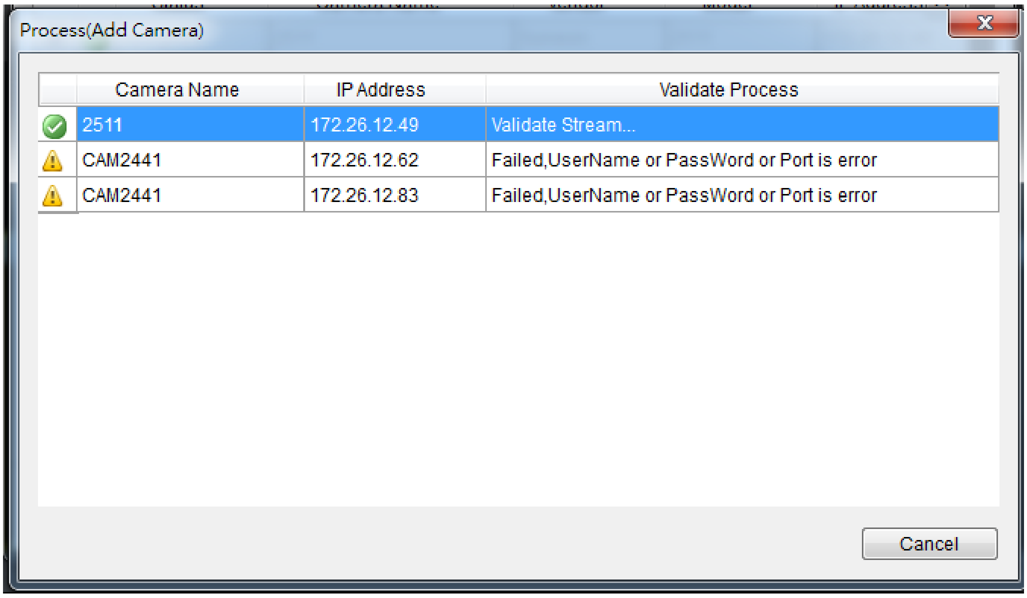
Rescan

	Camera Name	IP Address	Username	Password	Vendor	Model	Status
☑	⚠ CAM4365	172.16.80.203	admin	•••••		CAM4365	New
☑	⚠ CAM2100	172.16.80.193	admin	•••••		CAM2100	New
☑	⚠ CAM2400	192.168.88.3	admin	•••••		CAM2400	New
☑	⚠ VictorIPCAM	172.16.80.173	admin	•••••		CAM5130	New
☑	⚠ IPCAM	172.16.80.240	admin	•••••		CAM6120	New
☑	⚠ CAM2101	172.16.80.211	admin	•••••		CAM2101	New
☑	✓ IPCAM	172.16.80.223	admin	•••••		CAM3365	Assigned
☑	⚠ CAM4365	172.16.80.172	admin	•••••		CAM4365	New
☑	⚠ IPCAM	172.16.80.196	admin	•••••		CAM2100	New
☑	⚠ CAM2400	172.16.80.210	admin	•••••		CAM2400	New

☑ Select/Deselect All   Username: admin   Password: •••••   Apply Selected

IP Camera Utility   OK   Cancel

The following windows will prompt for validation.

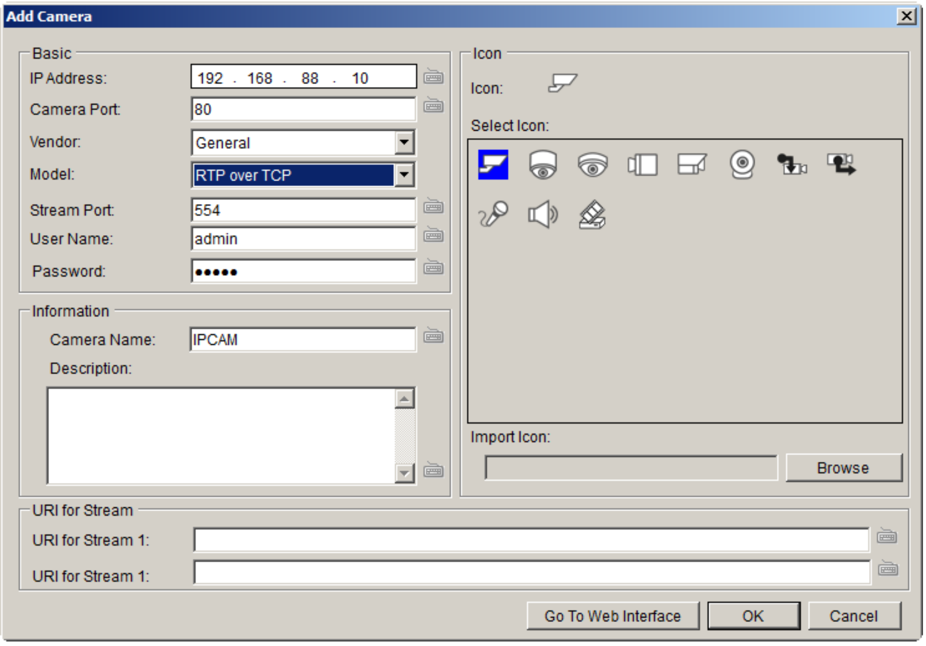


Process(Add Camera)

	Camera Name	IP Address	Validate Process
✓	2511	172.26.12.49	Validate Stream...
⚠	CAM2441	172.26.12.62	Failed,UserName or PassWord or Port is error
⚠	CAM2441	172.26.12.83	Failed,UserName or PassWord or Port is error

Cancel

3. **(Optionally)** Double-click any camera entry to bring up the camera detail page. From this page you may change the following information:



IP Address: 192 . 168 . 88 . 10

Camera Port: 80

Vendor: General

Model: RTP over TCP

Stream Port: 554

User Name: admin

Password: ●●●●●

Camera Name: IPCAM

Description:

URI for Stream 1:

URI for Stream 1:

- **IP Address** - Changing this value will affect connectivity.
- **Camera Port -** The web access port, default is 80.
- **Stream Port** - Default is 6002
- **Vendor** - Changing this value will affect connectivity.
- **Model** - Changing this value will affect connectivity.
- **User Name** - This value is not always required.
- **Password** - This value is not always required.
- **Camera Name** - It is recommended you change this value if you have more than one camera of this make/model.
- **Camera Description**
- **Camera Icon -** You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.

Finally, you can access the web interface for the camera by clicking on the **Go to Web Interface** button. Click **OK** to save your changes, or **Cancel** to exit without saving.

4. **(Optionally)** You may access the IP Utility for camera configurations by clicking the **IP Camera Utility** button.

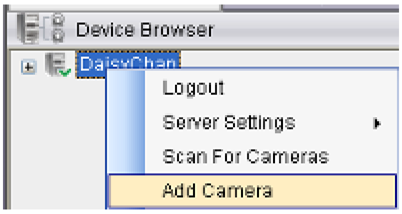
5. Click **OK** to add the selected cameras to the Server.

Note: Automatic Scan for Cameras can also be accessed by clicking ***Camera List > General Tasks > Scan for Cameras*** *or* ***Server Entry > Common Tasks > Common Server Tasks > Scan for Cameras*** in the VMS Console.

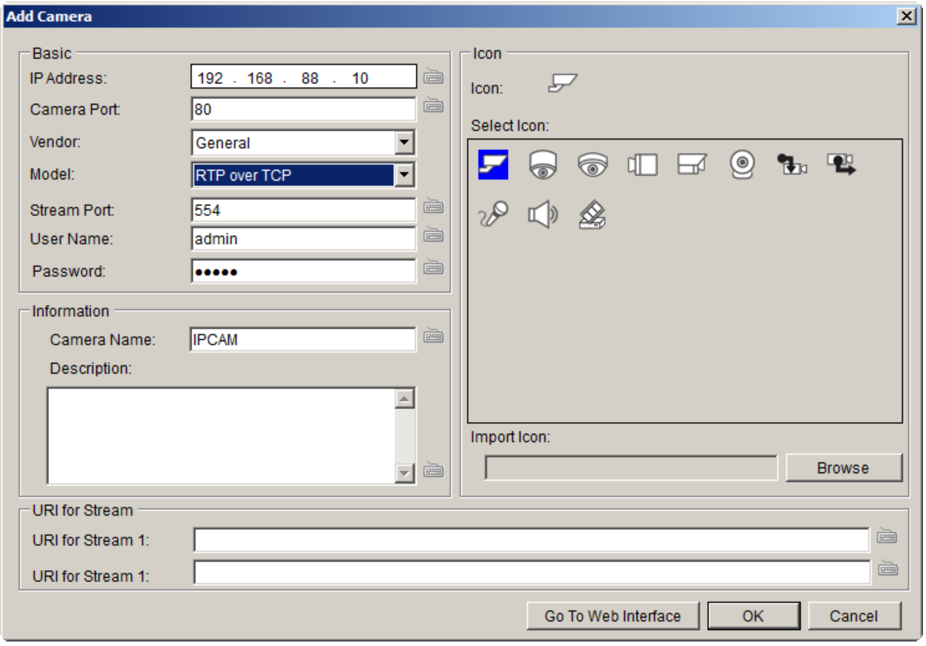
9.1.2. Manually Adding Cameras

To manually add a camera to the Server:

1. Right-click the Server entry and select **Add Camera**.



2. In the camera window fill out the following information:


Add Camera

Basic

IP Address: 192 . 168 . 88 . 10

Camera Port: 80

Vendor: General

Model: RTP over TCP

Stream Port: 554

User Name: admin

Password: •••••

Information

Camera Name: IPCAM

Description:

URI for Stream

URI for Stream 1:

URI for Stream 1:

- **IP Address**
- **Camera Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
- **Vendor - Including ACTI, ASONI, AVTECH, AXIS, Arecont, Sosch, Brickcom, DyNACOLOR, D_Link, Dahua, EDIMAXHIKVISION, EverFocus, HIKVISION, IQinVision, Lilin, Eessoa, Mobotix, ONVIF, Panasonic, SIMON, SONY, Samsung, Surveon, VIVOTEK, and General.**

- **Model -** when **"General"** is selected, **"RTP over TCP"** and **"RTP over UDP"** can be further defined.
- **Stream Port -** This value will automatically populate with the default value for the **Vendor** and **Model** selected.
- **User Name** – This value is not always required.
- **Password** – This value is not always required.
- **Camera Name** – It is recommended you change this value if you have more than one camera of this make/model.
- **Camera Description**
- **Camera Icon -** You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.

3. Finally, once basic camera information is filled in, you may access the web interface for the camera by clicking on the **Go to Web Interface** button. Click **OK** to add the camera.

Note: Cameras can also be added manually by clicking ***Camera List*** > ***General Tasks*** > ***Add Camera*** in the VMS Console.

9.1.3. Deleting a Camera

1. Right-click the camera entry you wish to remove in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Delete Camera** option. The system will respond with a warning dialog.
3. Click **Yes** to delete the camera from the Server.

Note: Cameras can also be deleted by clicking ***Camera List*** > ***General Tasks*** > ***Delete Camera*** in the VMS Console.

9.1.4. Initializing a Camera

Initializing the camera resets the camera so that it will correspond to the settings on the Server. To perform this operation:

1. Right-click the camera entry in the *Device Browser* window to bring up the options popup.
2. Highlight and click the **Initialize** option. The system will respond with a warning dialog.
3. Click **Yes** to reset the camera.

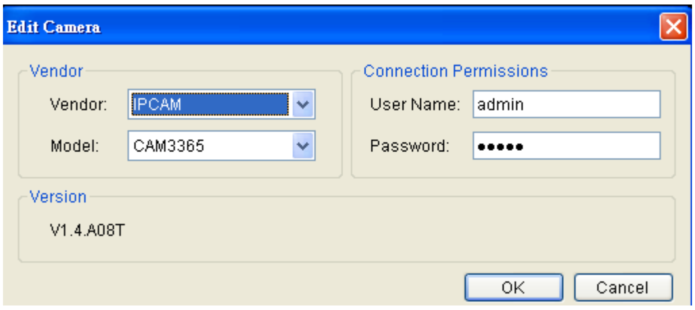
Note: Camera initialization can also be done by clicking ***Camera List*** > ***Camera Settings*** > ***Initialize*** in the VMS Console.

8.2. Camera General Settings

8.2.1. Logging into a Camera

It is important to note that you must be logged into the camera before you can change any settings. To login to the camera:

1. Right-click the camera entry and select **Camera Settings** > **Edit Camera**.



Vendor: IPCAM

Model: CAM3365

User Name: admin

Password: •••••

V1.4.A08T

2. In the *Connection Permissions* section, enter a valid username in the **User Name** field and password in the **Password** field.

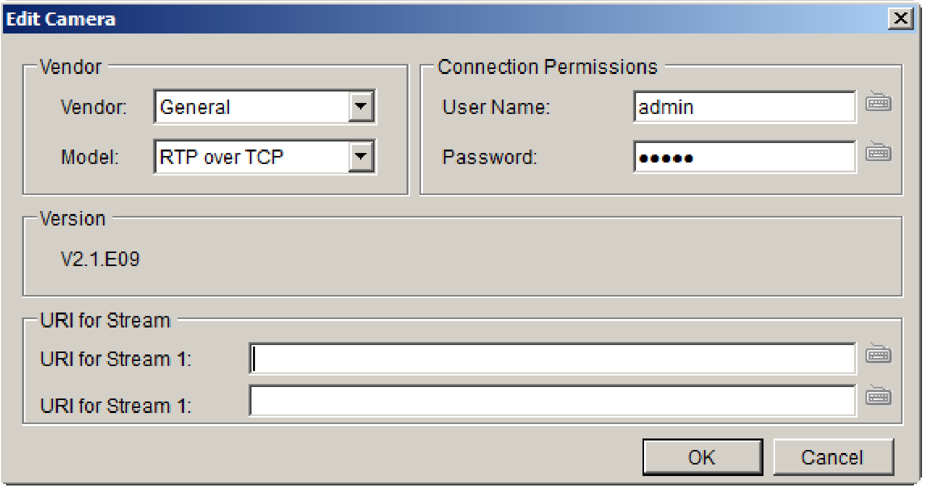
Note: The system will not perform an active check on the username and password. Setting an incorrect username or password may affect camera connectivity and configurability.

3. Click **OK** to login.

8.2.2. Changing the Camera Model and Vendor

In certain situations it may be necessary to change the Vendor or Model information for the camera. To perform this operation:

1. Right-click the camera entry and select **Camera Settings** > **Edit Camera**.



Vendor: General

Model: RTP over TCP

User Name: admin

Password: •••••

V2.1.E09

URI for Stream 1:

URI for Stream 1:

2. Select the new **Vendor** and **Model** from the respective drop-downs.

   When there's no suitable option for your device, you can select "**General**" from the **Vendor** dropdown list and defined if it's a **"RTP over TCP"** or a **"RTP over UDP"** from the **Model** dropdown list. Once set, define URI for Stream 1.

   See the reference below for further setting.

   For an AXIS IP camera,
   key in "RTSP://<IP of the IP camera>/<codec>/media.amp"

   For a HIKVISION IP camera,
   key in "RTSP://username:password@<IP of the IP Camera>"

   For a Surveon IP camera,
   key in "RTSP://<IP of the IP camera>/stream1 or stream2"

Note: Setting an incorrect vendor or model may affect camera connectivity.

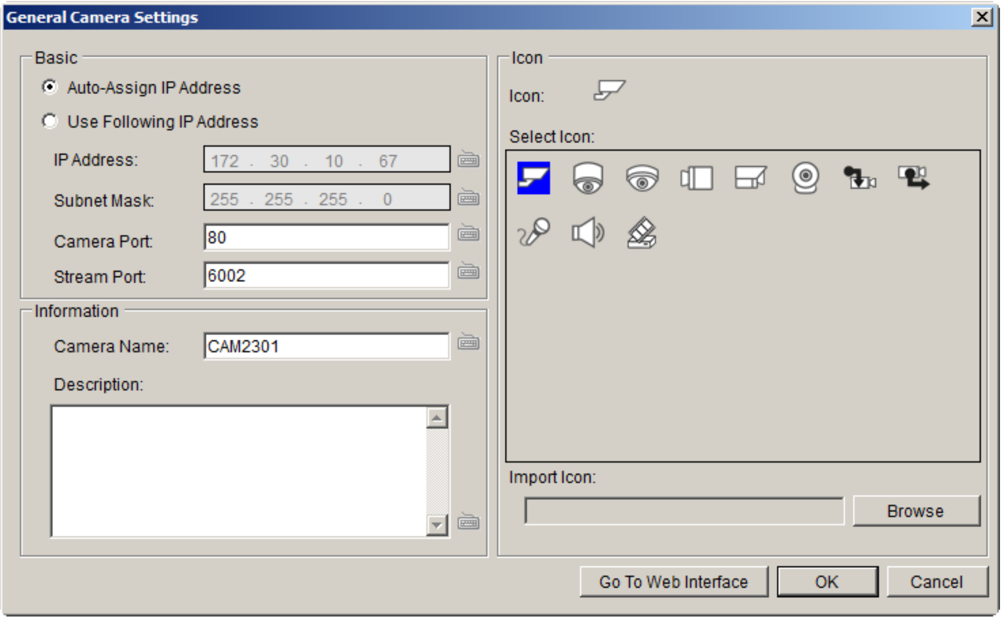
3. Click **OK** to save your changes.

Note: Edit Camera can also be accessed by clicking ***Camera List > Camera Settings > Edit Camera*** in the VMS Console.

8.2.3. General Settings

Camera general settings include network connectivity settings, as well as basic camera name, description and icon settings.

1. Right-click the camera entry and select **Camera Settings > Camera General Settings**.



General Camera Settings

Basic

● Auto-Assign IP Address

○ Use Following IP Address

IP Address: 172 . 30 . 10 . 67

Subnet Mask: 255 . 255 . 255 . 0

Camera Port: 80

Stream Port: 6002

Information

Camera Name: CAM2301

Description:

Icon

Icon:

Select Icon:

Import Icon:

2. There are two ways to specify the IP address for the camera.

   - **If you wish to automatically assign an IP address to the camera using DHCP services, select the Auto-assign IP Address option.**
   - **If you wish to assign a fixed IP, select Fixed IP Address, and provide an IP address for the camera in the IP Address field. The Subnet Mask will be shown together with the IP address.**

3. You may continue by editing any of the following options:

   - **Camera Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
   - **Stream Port** - This value will automatically populate with the default value for the **Vendor** and **Model** selected.
   - **Camera Name** - It is recommended you change this value if you have more than one camera of this make/model.
   - **Camera Description**

- **Camera Icon -** You can also import your own icon by clicking on the **Browse** button and choosing an icon file. Valid icon files include JPEG, GIF, PNG, BMP and ICON files.

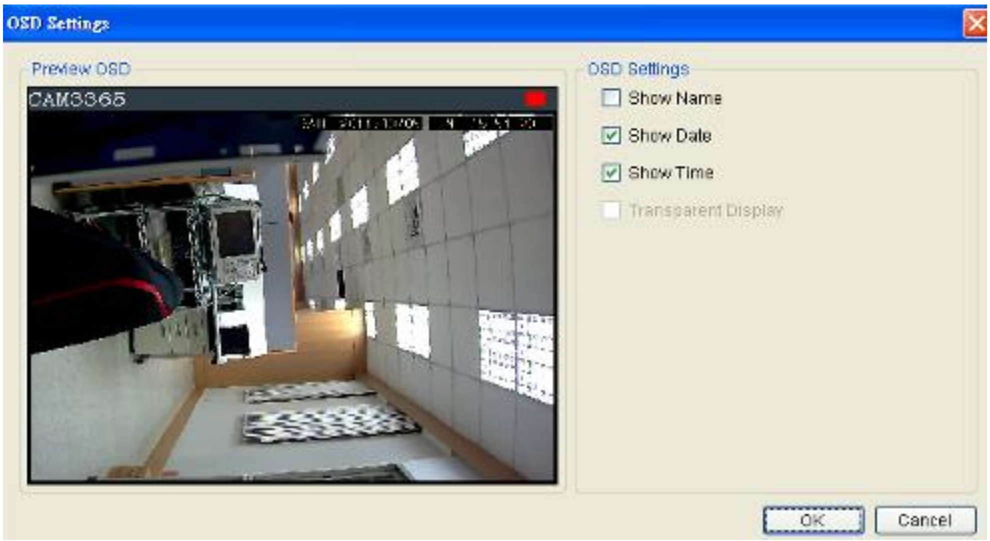
4. Click **OK** to save your changes.

> **Note:** Camera General Settings can also be configured by clicking ***Camera List*** > ***Camera Settings*** > ***Camera General Settings*** in the VMS Console.

8.2.4. OSD Settings

On cameras with OSD capabilities, these capabilities can be configured within the server. To configure the information for the on-screen display:

1. Right-click the camera entry and select **Camera Settings** > **OSD Settings** to bring up the OSD settings menu.



☐ Show Name
☑ Show Date
☑ Show Time
☐ Transparent Display

2. Choose any of the following options:
   - **Show Name** – Displays the camera name. If this item is selected, you will also have the option of entering another name to display.
   - **Show Date** – Displays the camera date.
   - **Show Time** – Displays the camera time.
   - **Transparent Display** – When this option is chosen, the camera will not black-out the lettering background.

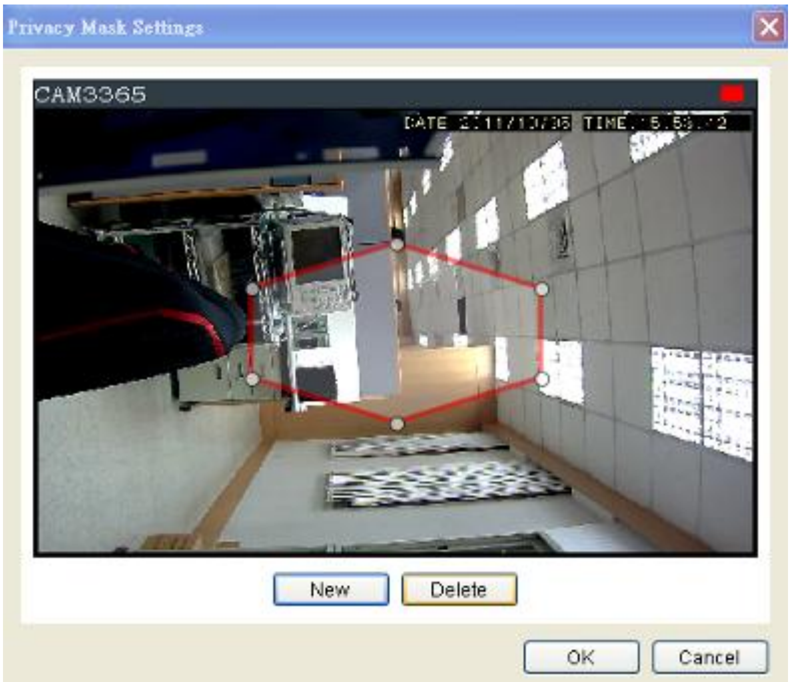
3. Click **OK** to save your changes.

Note: OSD Settings can also be configured by clicking ***Camera List* > *Camera Settings* > *OSD Settings*** in the VMS Console.

8.2.5. Privacy Mask Settings

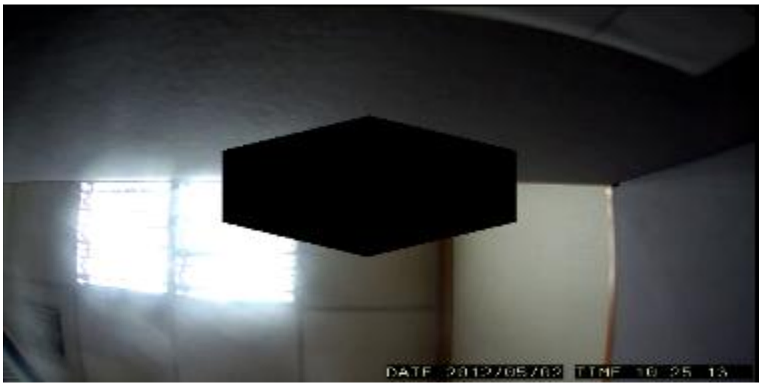
The camera can be configured to display useful information on the top bar. To configure the information for the on-screen display:

1. Right-click the camera entry and select **Camera Settings** > **Mask Settings** to bring up the privacy mask settings menu.



2. Click the **New** button to create a new privacy mask overlay, denoted by a red border.
3. Click and drag the overlay to move the overlay around the screen. Click and drag one of the six white dots on the red border to resize and reshape the overlay. If multiple windows are present, the window being edited will have a red border.
4. Repeat these steps to create up to three windows. Click **OK** to save the privacy mask.

The masked areas will be shown in black on the live view screen after the mask is saved.



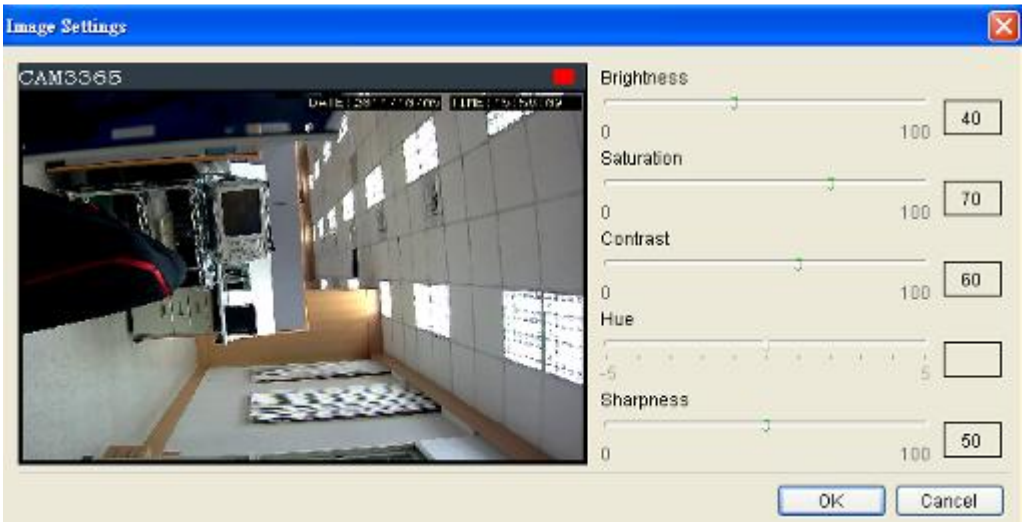
Note: (1) The masked areas can be unmasked during a video export with an administrative password. For more details refer to the section on video export. (2) Privacy Mask Settings can also be configured by clicking ***Camera List* > *Camera Settings* > *Mask Settings*** in the VMS Console.

8.3. Camera Image and Quality Settings

8.3.1. Camera Image Settings

To configure camera image settings:

1. Right-click the camera entry in the *Device Browser*, then click **Image Adjustments > Image Settings**.



Brightness 40

Saturation 70

Contrast 60

Hue

Sharpness 50

Note: You must be logged into the camera before changing settings or else the operation will fail.

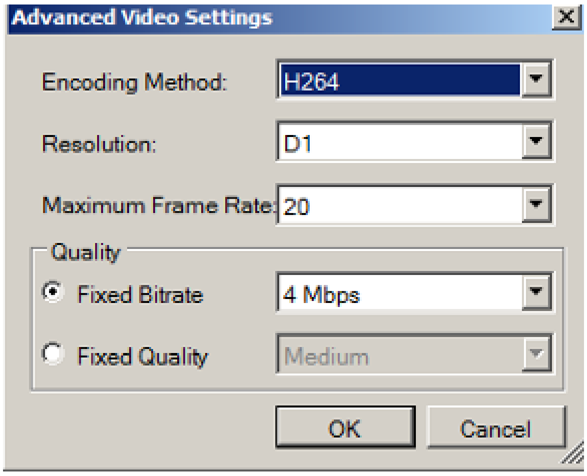
2. Adjust the following sliders to change the camera image:
   - **Brightness** – The overall lighting level of the image. This value can be used to boost or reduce the apparent lighting of the image.
   - **Saturation** – The overall color intensity of the image. This value can be used to boost or reduce overall color intensity.
   - **Contrast** – The lighting difference between dark and light areas of the image. This value can be used to boost or reduce apparent differences in lighting.
   - **Hue** – The color cast of the image. This value can be used to compensate for colored lighting or other color casting.
   - **Sharpness** – The edge contrast of the image. This value can be used to make the picture appear clearer.

3. Click **OK** to save your changes.

Note: Camera Image Settings can also be configured by clicking ***Camera List*** > ***Camera Settings*** > ***Image Settings*** in the VMS Console.

8.3.2. Advanced Video Settings

1. Right-click the camera entry in the *Device Browser*, then click **Image Adjustments > Advanced Video Settings**.



Encoding Method: H264

Resolution: D1

Maximum Frame Rate: 20

Quality

● Fixed Bitrate 4 Mbps

○ Fixed Quality Medium

Note: You must be logged into the camera before changing settings or else the operation will fail.

2. Select a video encoding method from the **Encoding Method** drop-down. Encoding methods will vary by camera type, but common ones include:
   - **MJPEG**
   - **MPEG-4**
   - **H264**

3. Select a video resolution from the **Resolution** drop-down. Supported resolutions will vary by camera.

   Select the maximum video frame rate from the **Maximum Frame Rate** drop-down.

4. From the *Quality* section, choose one of the following:
   - **Fixed Bitrate** – The camera image quality will be adjusted within a fixed bitrate selected in the dropdown. Dropdown values will vary by camera.
   - **Fixed Quality** – The camera bitrate will be adjusted to meet the quality selected in the dropdown. Dropdown values will vary by camera.

Note: Video Quality Settings can also be configured by clicking ***Camera List* > *Camera Settings* > *Advanced Video Settings*** in the VMS Console.

8.4. PTZ Settings

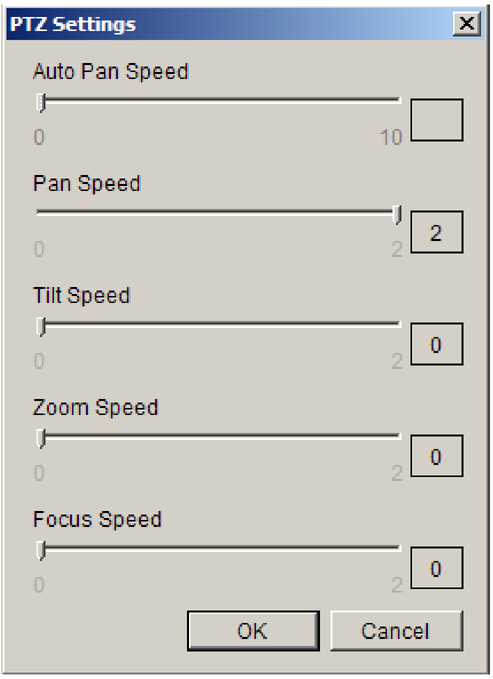
In cameras equipped with any combination of pan, tilt or zoom (PTZ) functionality, these settings are used to configure the PTZ functions.

8.4.1. PTZ Settings

The PTZ settings deal with the software PTZ control panel. These settings adjust how much the camera will pan, tilt, zoom, and focus with each control panel input.

Note: You must be logged into the camera before changing settings or else the operation will fail.

1. Right-click the camera entry in the *Device Browser*, and click **PTZ Settings > PTZ Settings**.



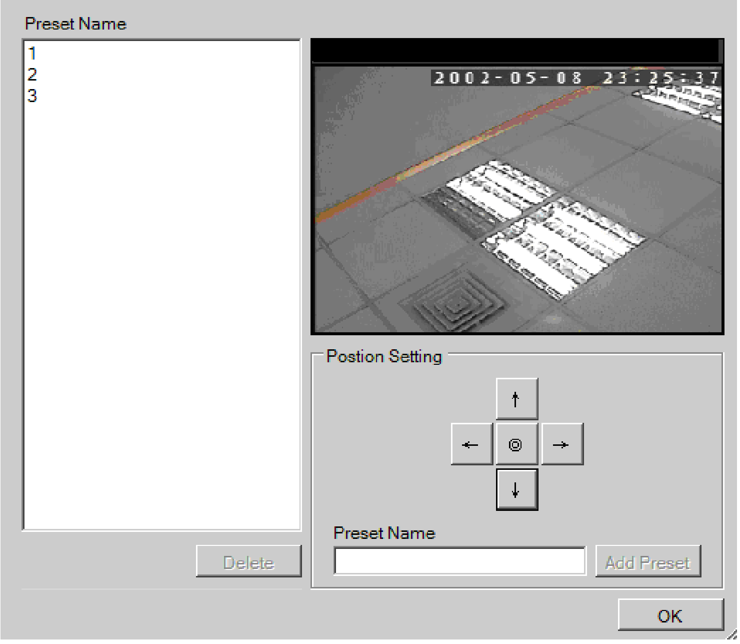
2. Adjust the following sliders to increase and decrease the following speeds: (The higher the value, the higher the speed) Unsupported features on specific cameras will be grayed out.
   - **Auto Pan Speed** - The speed which the camera will pan between the mechanical stops when the **Auto Pan** function is activated.
   - **Pan Speed** - The distance the camera will pan to each side.
   - **Tilt Speed -** The distance the camera will tilt up and down.
   - **Zoom Speed -** The distance the camera will zoom near or far.

- **Focus Speed** - The amount the camera will focus forward or backward.

Note: PTZ Settings can also be configured by clicking ***Camera List* > *Camera Settings* > *PTZ Settings*** in the VMS Console.

8.4.2. PTZ Preset Settings

Certain preset pan/tilt/zoom values can be saved in order to move the camera quickly to a point of interest. To configure camera PTZ preset settings, right-click the camera entry, then highlight and click **PTZ Settings** > **Preset Settings** option.



The popup will display the camera output, as well as a *Position Setting* pad.

Note: You must be logged into the camera before changing settings or else the operation will fail.

Adding a Preset

1. Use the directional pad to move the camera view. Use the center “home” button to return the camera to the default zeroed view.

2. Once the camera reaches the point where a preset is desired, type a name into the **Preset Point Name** field.

3. Click the **Add a preset point** to add the preset to the list. Click **OK** exit the menu, or you may continue to add/delete additional presets.

Deleting a Preset

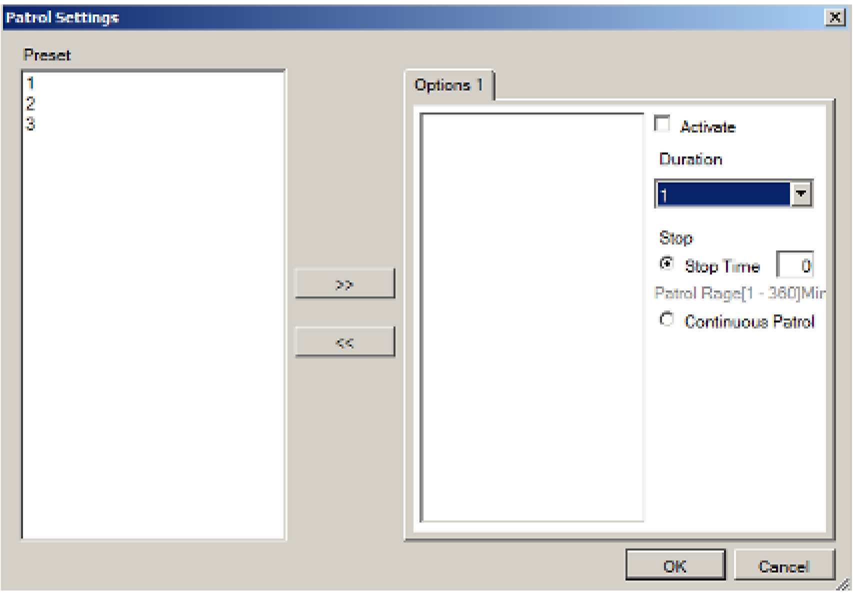
To delete a preset, simpy highlight the preset and click the **Delete** button. Click the **Yes** button to confirm deletion. Click **OK** exit the menu, or you may continue to add/delete additional presets.

> **Note:** PTZ Preset Settings can also be configured by clicking ***Camera List*** > ***Camera Settings*** > ***Preset Settings*** in the VMS Console.

8.4.3. PTZ Patrol Settings

In cameras with PTZ functionality, one camera can be used to survey a large area. This can be done automatically using the patrol functionality. This function basically moves the camera between preset points in a fixed pattern. To configure camera patrol settings:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **PTZ Settings > Patrol Settings.**



Preset: 1, 2, 3

☐ Activate

Duration: 1

Stop

● Stop Time 0

Patrol Rage[1 - 360]Mir

○ Continuous Patrol

> **Note:** You must be logged into the camera before changing settings or else the operation will fail.

2. On the right side of the popup there will be a list of preset points that are defined for the camera. Use the >> button to add the points to the

patrol list in the order that they are to be viewed. Points can also be removed by highlighting them and clicking on the **<<** button.

3. Select the length of time the camera will dwell at each preset point before continuing from the **Dwelling Time (Sec)** dropdown.

4. Select one of the following:

   - **Stop Time** – The camera will stop the number of minutes specified in the box between patrol sessions.
   - **Never Stop** – The camera will not stop between patrol sessions.

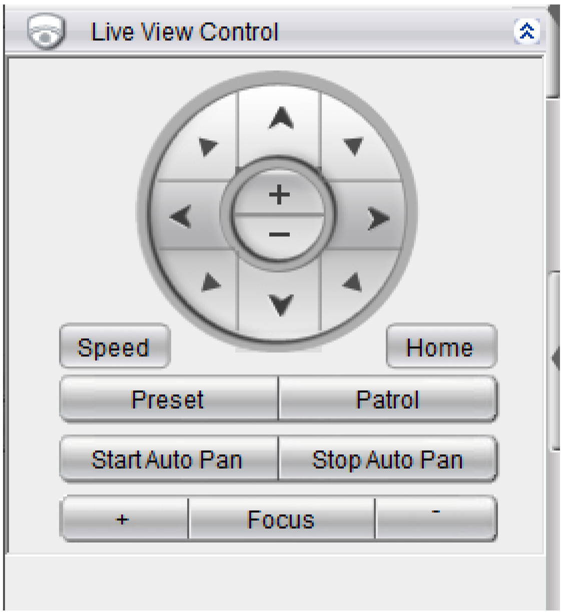
5. Click the **Active** button to activate the patrol list.

6. Click the **OK** button to save the patrol list and exit the popup.

Note: PTZ Patrol Settings can also be configured by clicking ***Camera List*** **>** ***Camera Settings*** **>** ***Patrol Settings*** in the VMS Console.

8.5. PTZ Controls

Cameras equipped with Pan-Tilt-Zoom functionality can be controlled directly within the VMS client software. These controls can be found in the *Live View Control* window within the live view screen.



Note: (1) The camera to be controlled must be selected by highlighting it (clicking its output window) in the main view window. (2) Joystick can also be used for PTZ control. Please refer to *Server Setup* > *General Tasks* > *Joysticks* for more details.

8.5.1. Directional Pad

Pan and Tilt

The pan and tilt functionalities can be controlled with the directional pad.

Clicking the right or left arrow will pan the camera by one step in the direction clicked. Clicking the up or down arrow will tilt the camera by one step in the direction clicked. Clicking diagonal arrows will combine the pan and tilt action of the adjacent arrows. Clicking on the Home icon, located at the center of the pad, will re-center the camera.

Zoom

The zoom on a camera can be controlled with the **+** and – buttons located inside the direction pad. Pressing the **+** button will increase zoom distance by 1 step. Pressing the **-** button will decrease zoom distance by one step.

8.5.2. Functional Buttons

Speed

Auto Pan Speed – The speed which the camera will pan between the mechanical stops when the **Auto Pan** function is activated.

Pan Speed – The distance the camera will pan to each side.

Tilt Speed - The distance the camera will tilt up and down.

Zoom Speed - The distance the camera will zoom near or far.

Focus Speed - The amount the camera will focus forward or backward.

Home

One position can be set as the Home position. Click on Home button to go to the Home position. Clicking on the Home button will re-center the camera.

Preset

The camera may have preconfigured viewpoints, or presets configured. To switch to one of these presets, click the **Preset** button and select the preset.

Adding a Preset

You must first be logged into the camera to add a preset. To add a preset using the PTZ controls:

1. Pan, tilt, zoom, and focus to the desired preset position.
2. Click the **Preset** button and select **Add Preset**.
3. Type a name into the **Preset Name** field. Click **OK** to add the preset.

Deleting a Preset

You must first be logged into the camera. To delete a preset using the PTZ controls:

Pan to the the preset.

Click the **Preset** button and select **Delete Preset Point**.

Click the **Yes** button to confirm deletion.

Patrol

In cameras with PTZ functionality, one camera can be used to survey a large area. This can be done automatically using the patrol functionality.

Start Auto Pan

The camera will pan between the mechanical stops when the **Auto Pan** function is activated.

Stop Auto Pan

The camera will stop auto pan between the mechanical stops when the **Auto Pan** function is inactivated.

Focus

The focus on a camera can be controlled with the **+** and **-** buttons located beside the *Focus* box. Pressing the **+** button will increase focus distance by 1 step. Pressing the **-** button will decrease focus distance by one step.

Chapter 10. Alarms and Events

Alarm handling in the VMS is divided into **4** distinct phases:

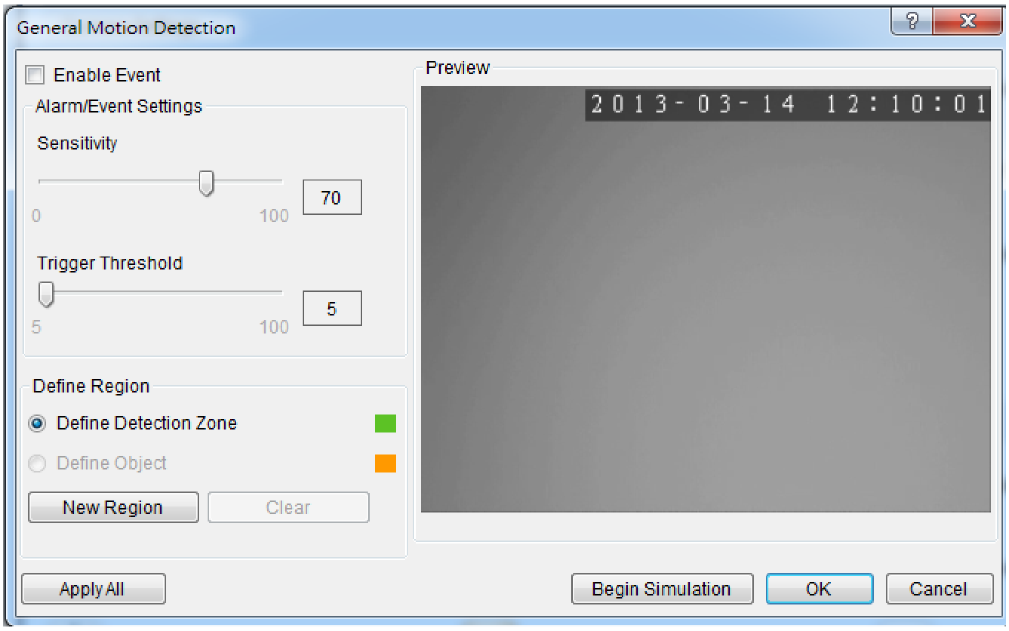
1. **Condition**: The condition is the triggering event for the alarm such as Motion/Video loss/Sensor Input/Clock Alarm, etc.
2. **Action**: Specifies steps and actions that can be undertaken when an alarm is triggered.
3. **Rule**: An alarm rule combines conditions with corresponding actions.
4. **Schedule**: Allows the user to schedule the application of specific alarm rules. This is useful in cases such as applying rules to non-office hours.

This section will guide the user through the setup of VI detection and digital Inputs for detecting alarm conditions, the setup of digital outputs and alarm popups and notifications, as well as the setup of alarm rules and schedules.

10.1. Camera VI Detection Settings

10.1.1. General Motion Detection

General motion detection involves using the software to analyze the video feed and detect motion in specified areas.



General Motion Detection

□ Enable Event

Alarm/Event Settings

Sensitivity: 70

Trigger Threshold: 5

Define Region

● Define Detection Zone 🟩

○ Define Object 🟧

Note: General Motion Detection can also be configured by clicking ***Camera List > Video Analytics > General Motion Detection*** in the VMS Console.

Configuring and Editing Detection Windows

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings > General Motion Detection**.
2. If a new window is desired, click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. Adjust the sliders: (Settings will be applied to all existing windows)

- **Sensitivity** – Adjusts window sensitivity from 0 (low) to 100 (high).

- **Trigger Threshold -** Adjusts the amount of change allowed before and event is triggered.

6. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > General Motion Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear around any moving objects detected.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > General Motion Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

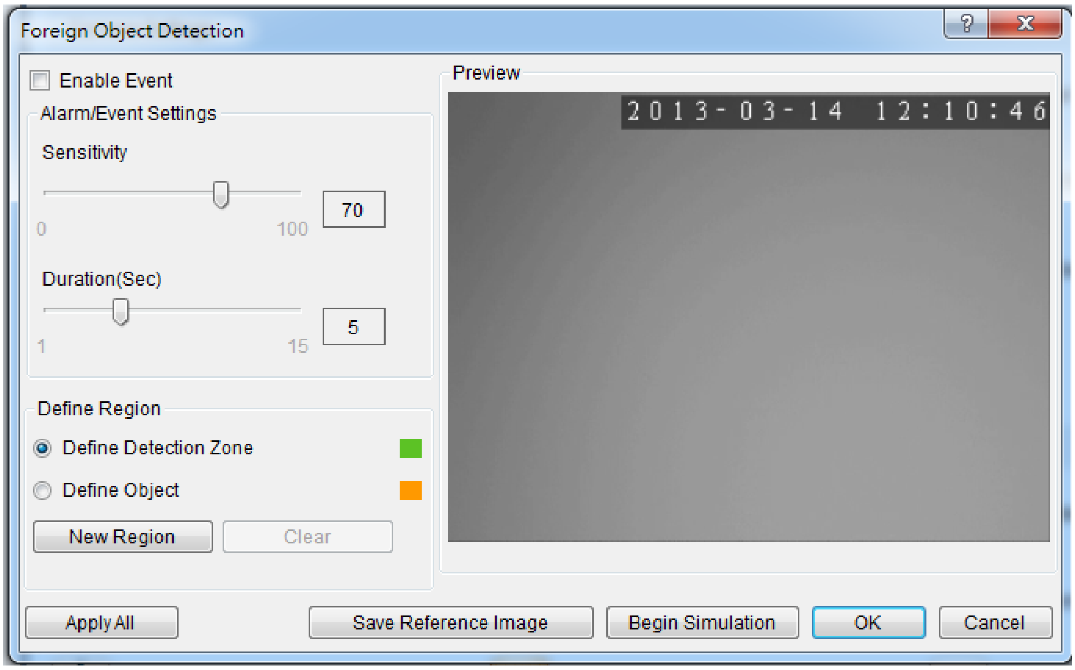
2. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > General Motion Detection** option.
3. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
4. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for General Motion Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.2. Foreign Object Detection

Foreign object detection involves using the software to analyze a video feed and detect objects that do not belong.



Foreign Object Detection

☐ Enable Event

Alarm/Event Settings

Sensitivity: 70 (0–100)

Duration(Sec): 5 (1–15)

Define Region

● Define Detection Zone 🟩

○ Define Object 🟧

Note: Foreign Object Detection can also be configured by clicking ***Camera List > Video Analytics > Foreign Object Detection*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings > Foreign Object Detection**.
2. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.

6. Click and drag the corners of the object box to define the minimum size of objects that will be detected.

7. Adjust the sliders: (Settings will be applied to all existing windows)

- **Sensitivity** – Adjusts window sensitivity from 0 (low) to 100 (high).
- **Duration** - Adjusts the amount of time before an object triggers an event.

Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Foreign Object Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear around any foreign objects detected.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Foreign Object Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Foreign Object Detection** option.

2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.

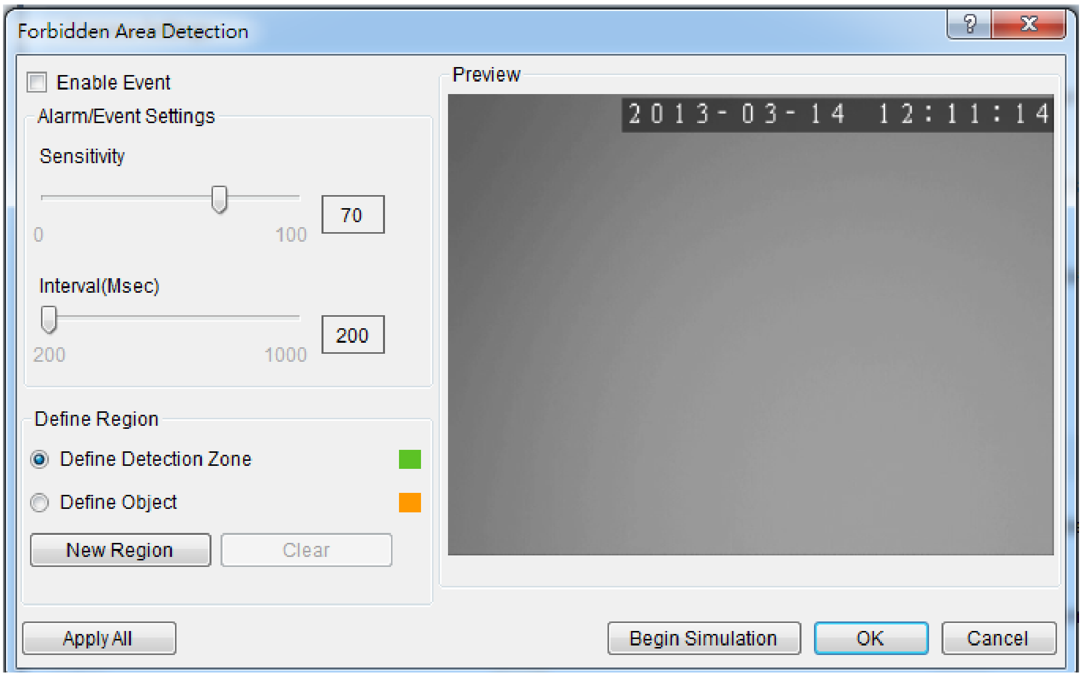
3. Click **OK** to save the changes and exit the popup.

Opening the Help File

4. The help file for Foreign Object Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.3. Forbidden Area Detection

Forbidden area detection involves using the software to analyze the video feed and immediately detect any object in specified areas.



Forbidden Area Detection

☐ Enable Event

Alarm/Event Settings

Sensitivity: 70 (0–100)

Interval(Msec): 200 (200–1000)

Define Region

● Define Detection Zone 🟩

○ Define Object 🟧

Preview

2013-03-14 12:11:14

Note: Forbidden Area Detection can also be configured by clicking ***Camera List*** > ***Video Analytics*** > ***Forbidden Area Detection*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings** > **Forbidden Area Detection**.
2. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.

6. Click and drag the corners of the object box to define the minimum size of objects that will be detected.

7. Adjust the sliders: (Settings will be applied to all existing windows)

    - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
    - **Interval -** Adjusts how much time between each check of the forbidden area.

8. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings** > **Forbidden Area Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear around any objects detected in the forbidden area.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings** > **Forbidden Area Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings** > **Forbidden Area Detection** option.

2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.

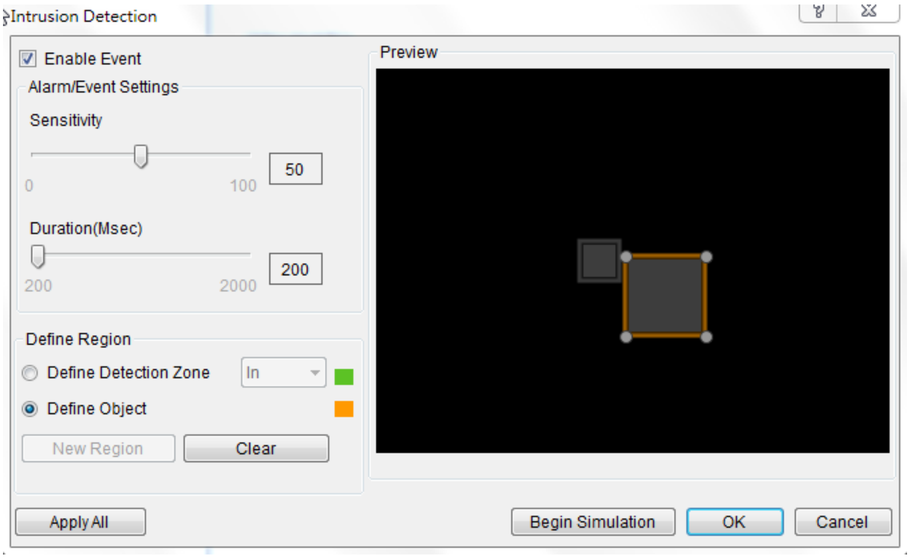
3. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for Forbidden Area Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.4. Intrusion Detection

Intrusion detection involves using the software to analyze the video feed and detect intrusion larger than a certain size.



☑ Enable Event

Sensitivity: 50

Duration(Msec): 200

○ Define Detection Zone In 🟩

● Define Object 🟧

Note: Intrusion Detection can also be configured by clicking ***Camera List*** **>** ***Video Analytics*** **>** ***Intrusion Detection*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings > Intrusion Detection**.
2. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.
6. Click and drag the corners of the object box to define the minimum size of the intrusion that will be detected.

7. Adjust the sliders: (Settings will be applied to all existing windows)

   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Duration (Sec)** - Adjusts how much time an object is missing before an event is triggered.

8. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the Device Browser, then highlight and click the **VI Settings > Intrusion Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear if any intrusion found.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Intrusion Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

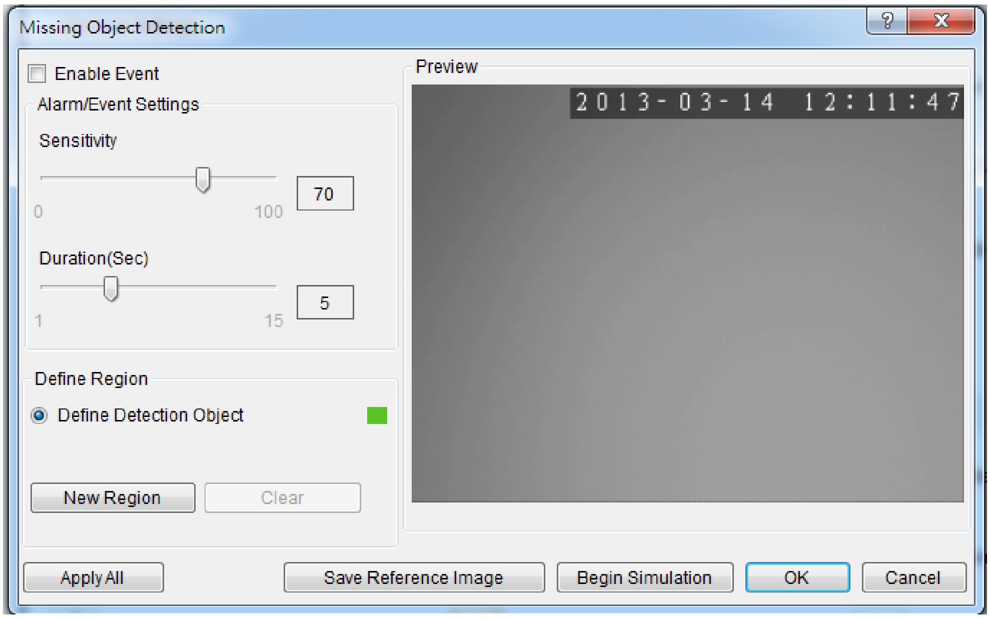
4. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Intrusion Detection** option.
5. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
6. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for Intrusion Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.5. Missing Object Detection

Missing object detection involves using the software to analyze the video feed and detect missing objects larger than a certain size.



Missing Object Detection

□ Enable Event

Alarm/Event Settings

Sensitivity: 70

Duration(Sec): 5

Define Region

● Define Detection Object 🟩

Note: Missing Object Detection can also be configured by clicking ***Camera List* >** ***Video Analytics* > *Missing Object Detection*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings > Missing Object Detection**.
2. If a new window is desired, select **Define Detection Zone** and click the **New Region** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to drag it to the desired position.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.
6. Click and drag the corners of the object box to define the minimum size of the missing objects that will be detected.

7. Adjust the sliders: (Settings will be applied to all existing windows)

   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Duration (Sec)** - Adjusts how much time an object is missing before an event is triggered.

8. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the Device Browser, then highlight and click the **VI Settings > Missing Object Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear if a object goes missing.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Missing Object Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Missing Object Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.

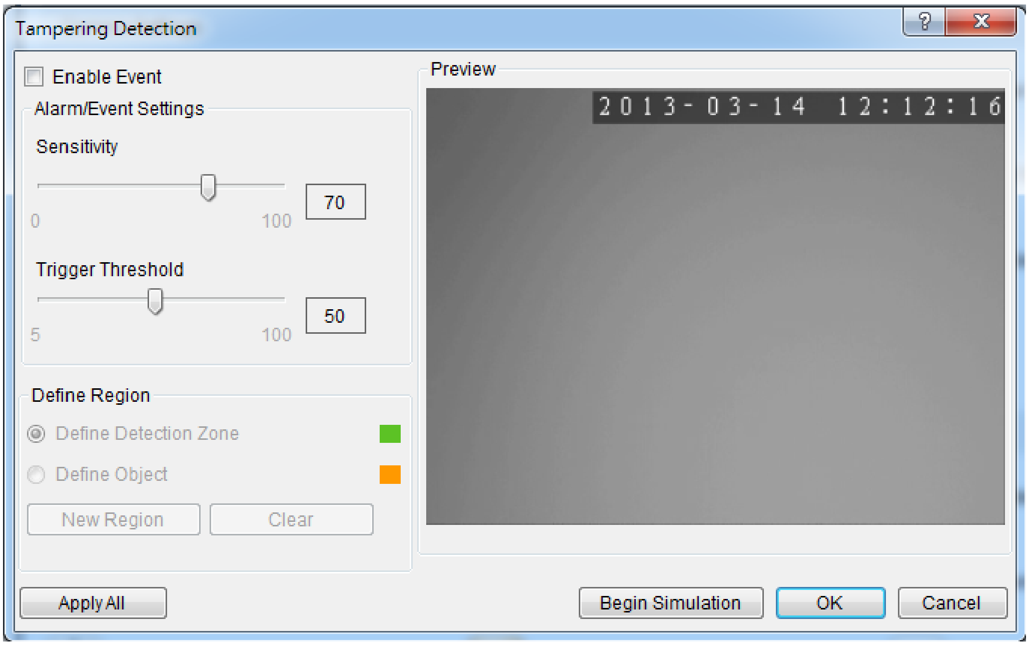
3. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for Missing Object Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.6. Tampering Detection

Tampering detection involves using the software to determine when the camera has been improperly moved or redirected.



Sensitivity 0 100: 70

Trigger Threshold 5 100: 50

Note: Tampering Detection can also be configured by clicking ***Camera List*** > ***Video Analytics*** > ***Tampering Detection*** in the VMS Console.

Configuring Tampering Detection

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings** > **Tampering Detection**.
2. Adjust the sliders:
   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Trigger Threshold** - Adjusts the amount of change allowed before an event is triggered.
3. Click **OK** to save the changes and exit the popup.

Testing Tampering Detection

To test a detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Tampering Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border if tampering is detected.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

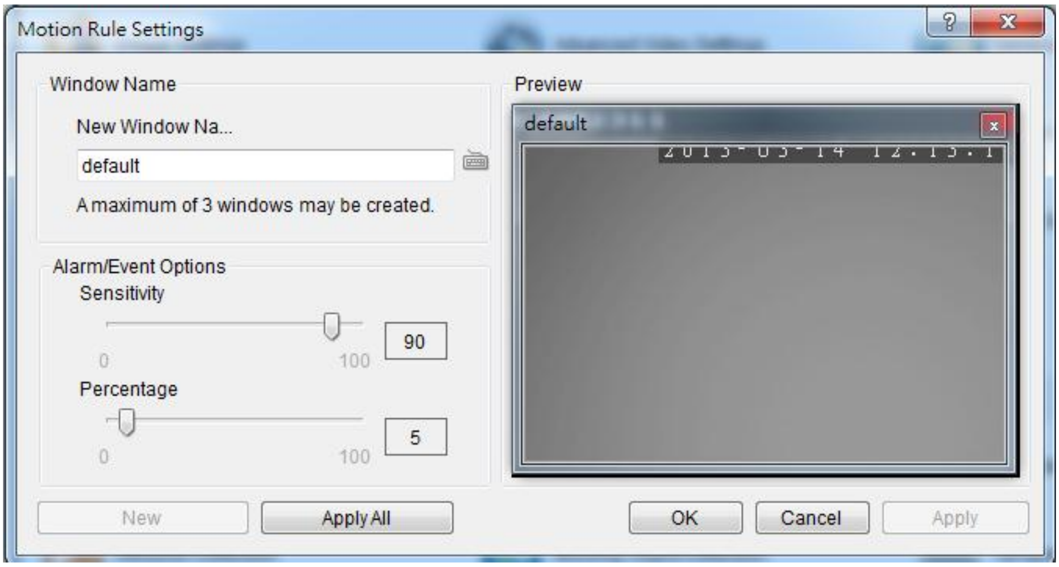
1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Tampering Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for Tampering Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.7. Camera Motion Detection

Camera motion detection involves using the camera hardware to analyze the video feed and detect motion in specified areas.



Note: Camera Motion Detection can also be configured by clicking ***Camera List*** > ***Video Analytics*** > ***Camera Motion Detection*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right click the camera entry in the *Device Browser*, and click **VI Settings** > **Camera Motion Detection**.

Note: You must be logged into the camera before changing settings or else the operation will fail.

2. If a new window is desired, enter a name in the **New Window Name** field and click the **New** button. Up to 3 detection windows can be set for each camera. The current window will be highlighted.

3. Click and drag the window border of a window to resize or reshape the window.

4. Click the interior of a window to drag it to the desired position.

5. Adjust the sliders: (Settings will be applied to all existing windows)

   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).

- **Percentage -** Adjusts the amount of the window that must change before an event is triggered.

6. Click **Apply** to save the changes and **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

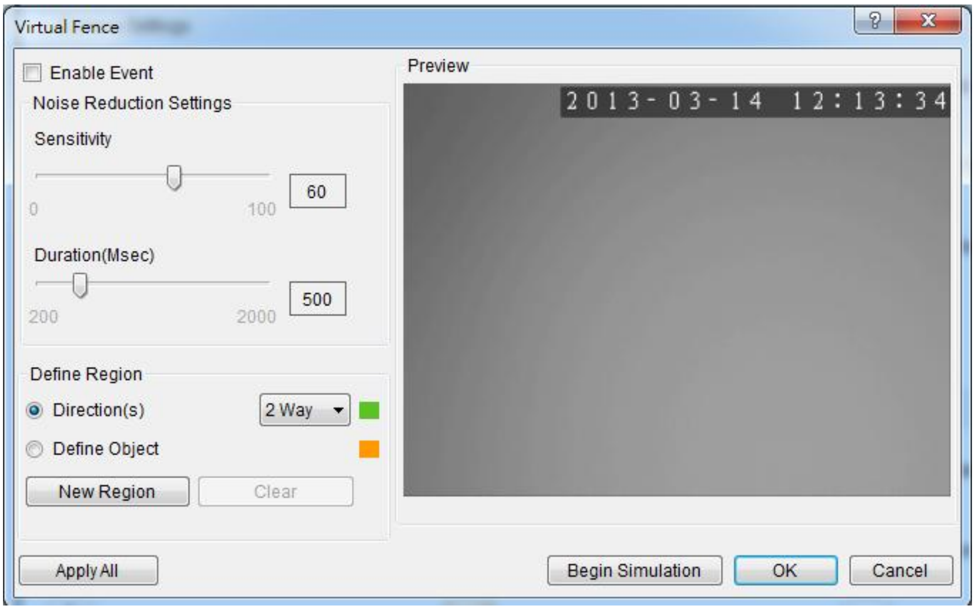
1. Right click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Camera Motion Detection** option.
2. Click the **X** at the top right corner of the window to delete the window.
3. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for Camera Motion Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.8. Virtual Fence

Virtual fence involves using the software to create a fence-crossing detection of the demanding object.



Virtual Fence

☐ Enable Event

Noise Reduction Settings

Sensitivity: 60 (0–100)

Duration(Msec): 500 (200–2000)

Define Region

● Direction(s): 2 Way 🟩

○ Define Object 🟧

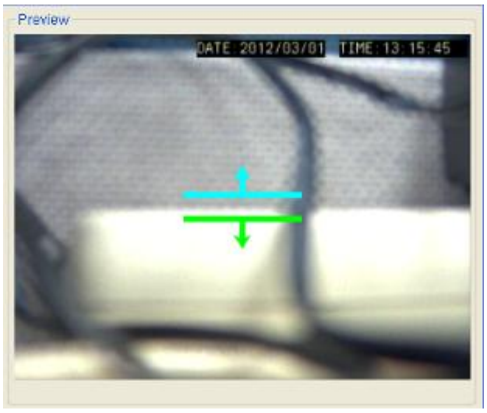
Note:	Virtual Fence can also be configured by clicking ***Camera List*** > ***Video Analytics*** > ***Virtual Fence*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings** > **Virtual Fence**.

2. If a new window is desired, select **Directions** and click the **New Region** button to create a new window. The current window will be highlighted with a one/two-way arrow (blue means "in", green means "out").



3. Click and drag the white arrows along the window border around the one/two-way arrow to resize the space between the fences/adjust the length of the fences.
4. Turn the window border with the orange arrow to change the directions of the fences.
5. If an object size has not yet been defined, select **Define Object** and click the **New Region** button to create an object box.
6. Click and drag the corners of the object box to define the minimum size of the fence-crossing objects that will be detected.
7. Adjust the sliders: (Settings will be applied to all existing windows)
   - **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Duration (Sec)** - Adjusts how much time between each check for the fence-crossing.
8. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the Device Browser, then highlight and click the **VI Settings > Virtual Fence** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear if a object goes missing.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Virtual Fence** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.

4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

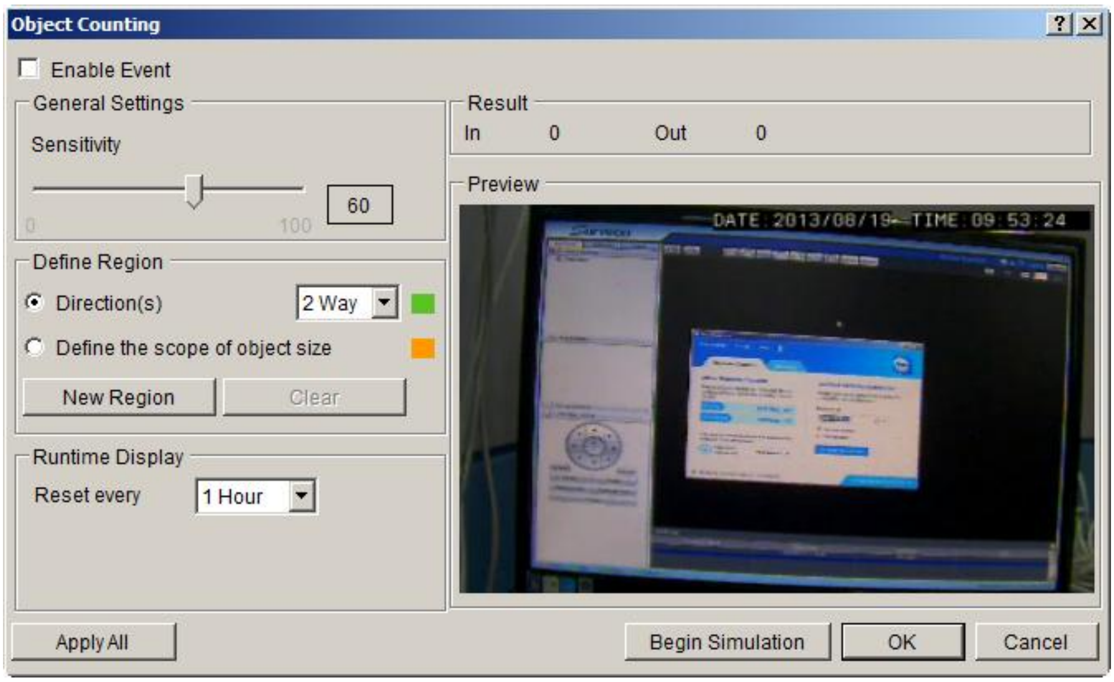
1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Virtual Fence** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for Virtual Fence can be attached by clicking the ? icon on the upper right corner of the window.

10.1.9. Object Counting

Object counting involves using the camera to count demanding object crossing the fences.



Object Counting

□ Enable Event

General Settings

Sensitivity: 60

Define Region

● Direction(s) 2 Way 🟩

○ Define the scope of object size 🟧

Runtime Display

Reset every 1 Hour

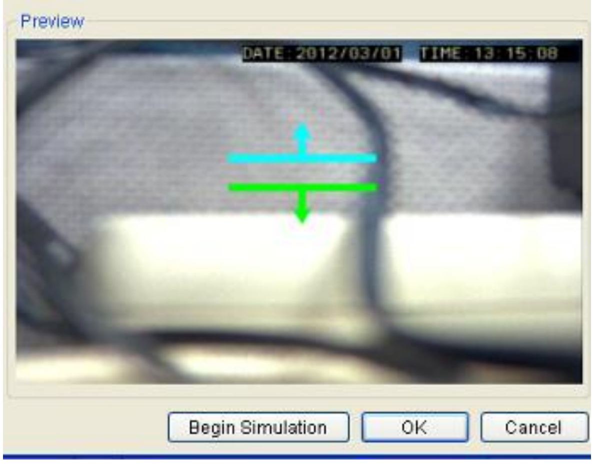
Result

In 0 Out 0

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings > Object Counting**.
2. If a new window is desired, select **Directions** and click the **New Region** button to create a new window. The current window will be highlighted with a one/two-way arrow (blue means “in”, green means “out”).



3. Click and drag the white arrows along the window border around the one/two-way arrow to resize the space between the fences/adjust the length of the fences.

4. Turn the window border with the orange arrow to change the directions of the fences.

5. If an object size has not yet been defined, select **Define Object (People Only)** and click the **New Region** button to create an object box.

> **Note:** (1) Only people will be counted after **Define Object (People Only)** is selected. (2) It is recommended that the object size is smaller than 1/4 of the live view screen.

6. Click and drag the corners of the object box to define the minimum size of the fence-crossing objects that will be detected.

7. Adjust the sliders: (Settings will be applied to all existing windows)

   - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).

8. The update interval can be set as 5min, 10min, 15min, 30 min and 1 hour in **Runtime Display**.

9. Click **OK** to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the Device Browser, then highlight and click the **VI Settings > Object Counting** option.

2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear if a object goes missing.

3. Click **End Simulation** to end the simulation.

4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Object Counting** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Object Counting** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

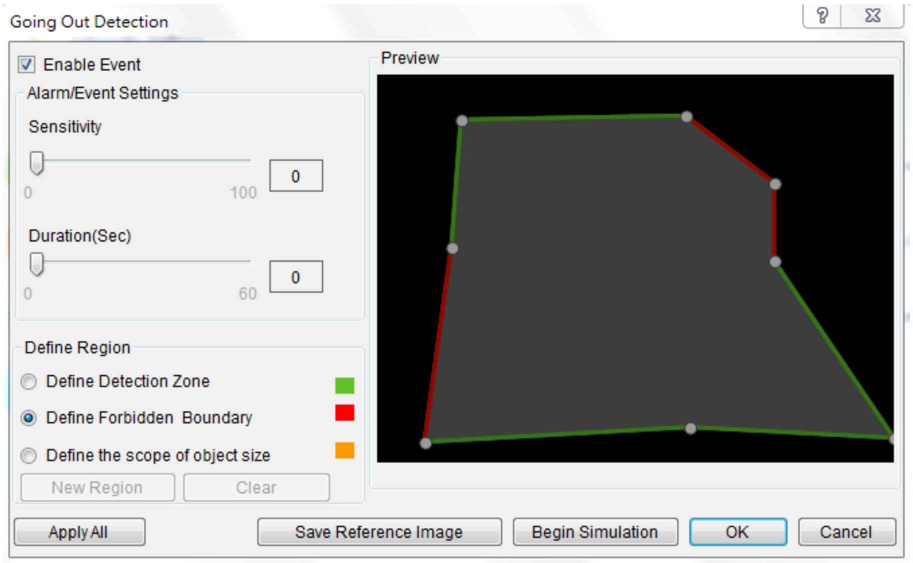
Note: (1) Object Counting can also be configured by clicking ***Camera List > Video Analytics > Object Counting*** in the VMS Console. (2) The statistical results for object counting can be seen by choosing the *Counting* Tab in the View Log Windows. Please refer to *Log for Object Counting* section for more details.

Opening the Help File

The help file for Object Counting can be attached by clicking the ? icon on the upper right corner of the window.

10.1.10. Going Out Detection

Going Out detection involves using the software to analyze the video feed and detect a going-out object crossing over the restricted area.



Going Out Detection

☑ Enable Event

Alarm/Event Settings

Sensitivity: 0

Duration(Sec): 0

Define Region

○ Define Detection Zone 🟩

● Define Forbidden Boundary 🟥

○ Define the scope of object size 🟧

Note: Going Out Detection can also be configured by clicking ***Camera List*** > ***Video Analytics*** > ***Going Out Detection*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings > Going Out Detection**.
2. If a new window is desired, select Define Detection Zone and click the New Region button to create a new window. Only 1 detection window can be set for each camera.
3. Click and drag the white dots along window border of a window to resize or reshape the window.
4. Click the interior of a window to mark the restricted line; once clicked, the clicked line will turn red. The red lines are the boundaries. Up to 8 boundaries can be set.
5. If an object size has not yet been defined, select Define Object and click the New Region button to create an object box.

6. Click and drag the corners of the object box to define the minimum size of the objects that will be detected.
7. Adjust the sliders: (Settings will be applied to all existing windows)

   - Sensitivity – Adjusts window sensitivity from 0 (low) to 100 (high).
   - Duration (Sec) - Adjusts how much time an object is missing before an event is triggered.

8. Click OK to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the Device Browser, then highlight and click the **VI Settings > Going Out Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear if any intrusion found.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Detection Window

To delete a new detection window:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Going Out Detection** option.
2. Highlight an existing detection window.
3. Click the **Clear** button to delete the window.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Going Out Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.

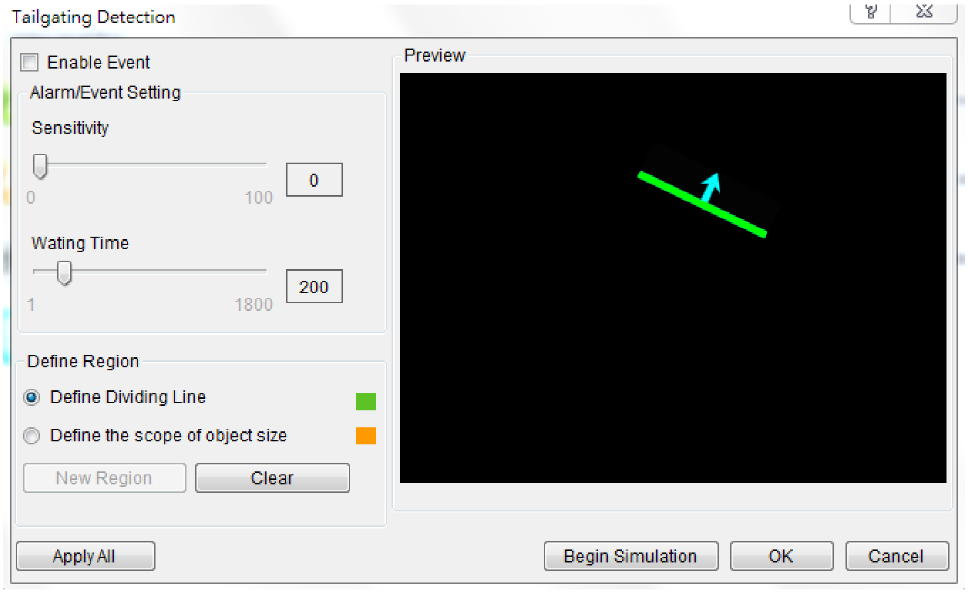
3. Click **OK** to save the changes and exit the popup.

Opening the Help File

The help file for Going Out Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.1.11. Tailgating Detection

Tailgating detection involves using the software to analyze the video feed and detect a tailgating object crossing over the restricted area.



Tailgating Detection

□ Enable Event

Alarm/Event Setting

Sensitivity: 0 (0–100)

Wating Time: 200 (1–1800)

Define Region

● Define Dividing Line 🟩

○ Define the scope of object size 🟧

Note: Tailgating Detection can also be configured by clicking ***Camera List*** > ***Video Analytics*** > ***Tailgating Detection*** in the VMS Console.

Configuring and Editing Detection Windows

To configure a new detection window:

1. Right-click the camera entry in the *Device Browser*, and click **VI Settings > Tailgating Detection**.

2. If a new window is desired, select Define Dividing Line and click the New Region button to create a new dividing line. Only 1 dividing line can be set for each camera.

3. Click and drag the created dividing line to the desire position and direction.

4. If an object size has not yet been defined, select Define Object and click the New Region button to create an object box.

5. Click and drag the corners of the object box to define the minimum size of the objects that will be detected.

6. Adjust the sliders: (Settings will be applied to all existing windows)

- Sensitivity – Adjusts window sensitivity from 0 (low) to 100 (high).
- Waiting Time (Sec) - Adjusts how much time an object is tailgating before an event is triggered.

7. Click OK to save the changes and exit the popup.

Testing Detection Windows

To test a detection window:

1. Right-click the camera entry in the Device Browser, then highlight and click the **VI Settings > Tailgating Detection** option.
2. Click the **Begin Simulation** button enable test detection. During testing a red border will appear if any intrusion found.
3. Click **End Simulation** to end the simulation.
4. Click **OK** to exit the popup.

Deleting a Dividing LIne

To delete a new dividing line:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Tailgating Detection** option.
2. Highlight the dividing line.
3. Click the **Clear** button to delete the line.
4. Click **OK** to save the changes and exit the popup.

Enabling or Disabling a Detection

To enable or disable the detection functions:

1. Right-click the camera entry in the *Device Browser*, then highlight and click the **VI Settings > Tailgating Detection** option.
2. Check the **Enable Event** box to enable detection, or uncheck the box to disable detection.
3. Click **OK** to save the changes and exit the popup.

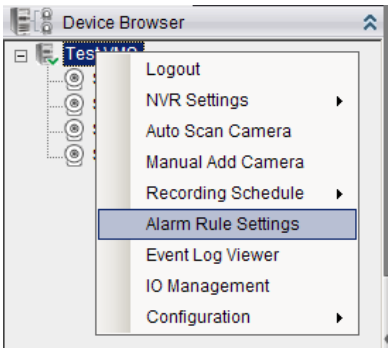
Opening the Help File

The help file for Tailgating Detection can be attached by clicking the ? icon on the upper right corner of the window.

10.2. Alarm Rules

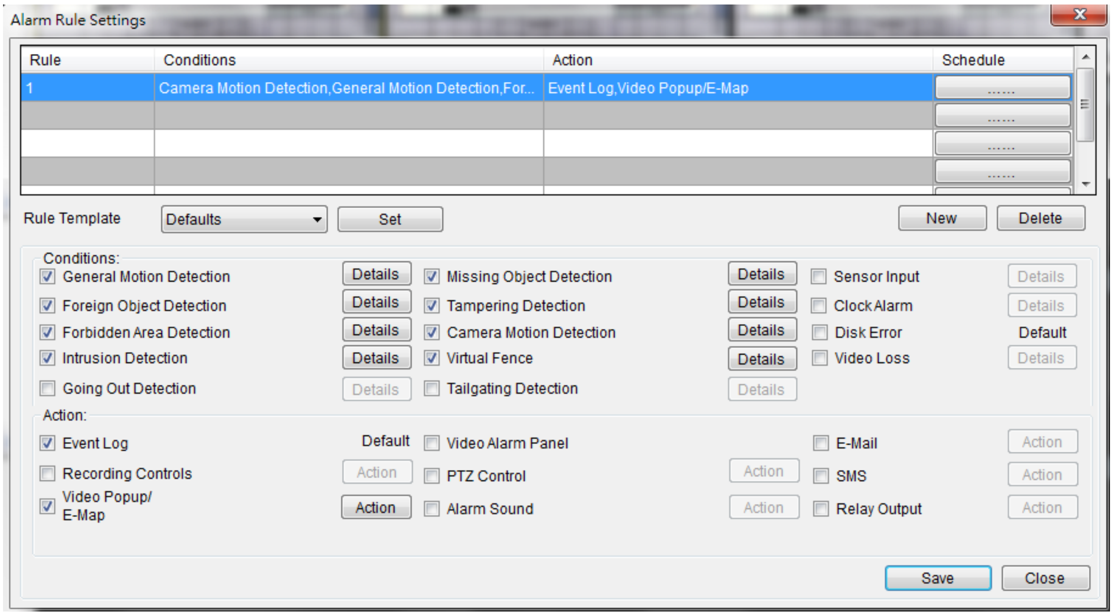
VMS Client provides robust alarm handling features.

To access these features right-click the Server entry and then highlight and click the **Alarm Rule Settings** option.



Note: Alarm Rule Settings can also be accessed by clicking ***Server > General Tasks > Alarm Rule Settings*** or ***Server Entry > Common Tasks > Common Server Tasks > Alarm Rule Settings*** in the VMS Console.

In the alarm rule settings, you can combine the alarm trigger conditions with action items such as event notification, video recording, and/or camera movements. Multiple alarm rules can be created using the following elements:



Alarm Rule Settings

Rule	Conditions	Action	Schedule
1	Camera Motion Detection,General Motion Detection,For...	Event Log,Video Popup/E-Map	......
			......
			......
			......

Rule Template: Defaults

Conditions:

☑ General Motion Detection — Details
☑ Foreign Object Detection — Details
☑ Forbidden Area Detection — Details
☑ Intrusion Detection — Details
☐ Going Out Detection — Details
☑ Missing Object Detection — Details
☑ Tampering Detection — Details
☑ Camera Motion Detection — Details
☑ Virtual Fence — Details
☐ Tailgating Detection — Details
☐ Sensor Input — Details
☐ Clock Alarm — Details
☐ Disk Error — Default
☐ Video Loss — Details

Action:

☑ Event Log — Default
☐ Recording Controls — Action
☑ Video Popup/E-Map — Action
☐ Video Alarm Panel
☐ PTZ Control — Action
☐ Alarm Sound — Action
☐ E-Mail — Action
☐ SMS — Action
☐ Relay Output — Action

1. **Rule**: A short description. For example, “east –fence intrusion detection” or “front entrance access control.”

2. **Condition**: Specifies triggering conditions such as Motion/Video loss/Sensor input/Clock Alarm, etc.

3. **Action**: Specifies the action to take when the alarm is triggered.

4. **Schedule**: Allows the user to schedule the application of specific Alarm rules. This is useful in cases such as applying rules to non-office hours.

10.2.1. Adding an Alarm Rule

1. Click the **New** button.
2. Enter a short description for the new rule in the **Add Rule** field.
3. Choose conditions and actions. Click the …... button in the alarm field to set up a schedule for the rule. These selections are described in the following sections.
4. Click the **Save** button to save the rule.

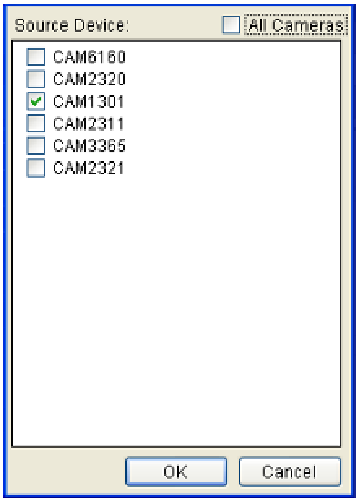
Alarm Conditions

The follow alarm conditions can be set to trigger the alarm:

General Motion Detection

When configuring a camera, a detection area can be specified for General Motion Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with General Motion Detection active.



Source Device: □ All Cameras

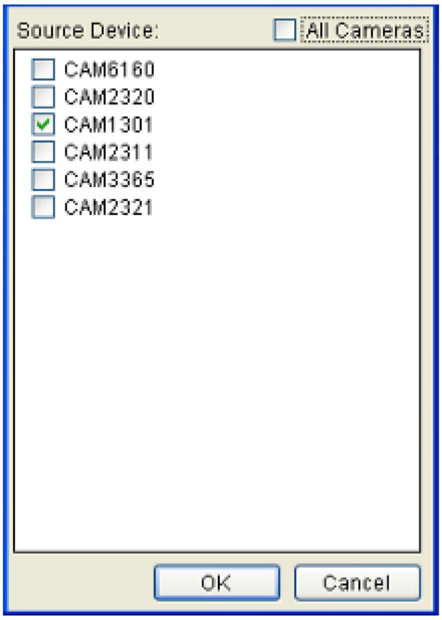
□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

From this menu, click the checkboxes next to the cameras that have General Motion Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Foreign Object Detection

When configuring a camera, a detection area can be specified for Foreign Object Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Foreign Object Detection active.



Source Device: □ All Cameras

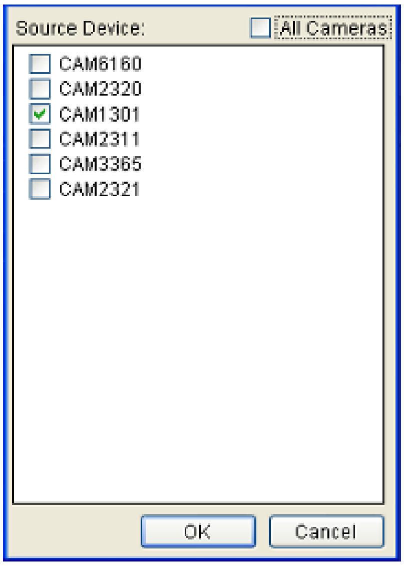
□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

From this menu, click the checkboxes next to the cameras that have Foreign Object Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Forbidden Area Detection

When configuring a camera, a detection area can be specified as forbidden for the Forbidden Area Detection function. After the area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Forbidden Area Detection active.



Source Device: □ All Cameras

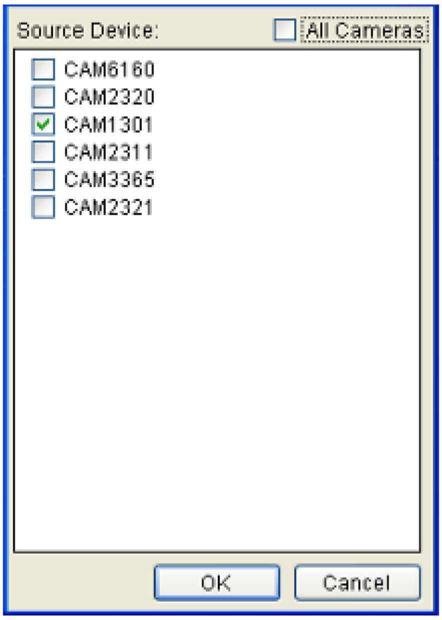
□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

From this menu, click the checkboxes next to the cameras that have a Forbidden Area configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Intrusion Detection

When configuring a camera, a detection area can be specified for Intrusion Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Intrusion Detection active.



Source Device: □ All Cameras

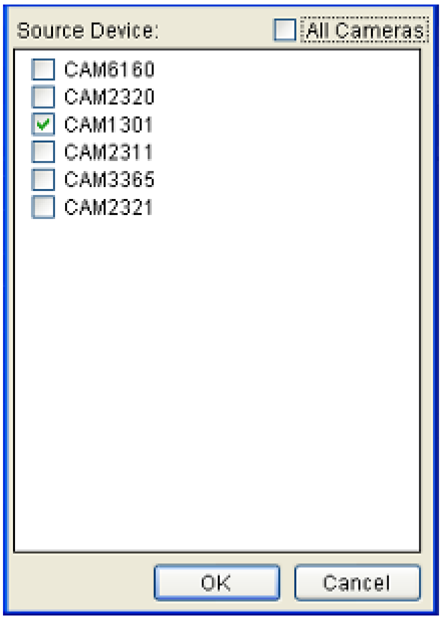
□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

From this menu, click the checkboxes next to the cameras that have Intrusion Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Going Out Detection

When configuring a camera, a detection area can be specified for Going Out Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Going Out Detection active.



Source Device: □ All Cameras

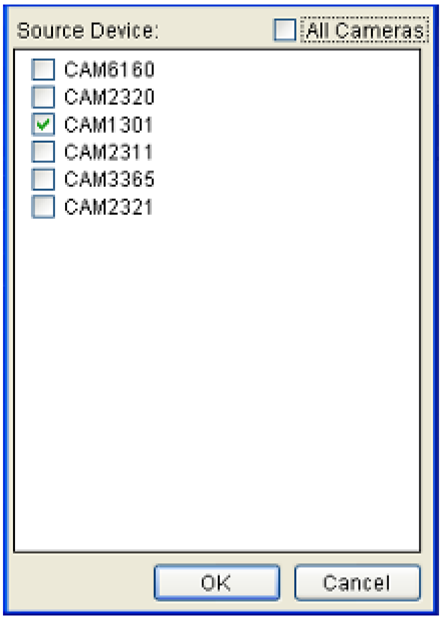
- □ CAM6160
- □ CAM2320
- ☑ CAM1301
- □ CAM2311
- □ CAM3365
- □ CAM2321

From this menu, click the checkboxes next to the cameras that have Going Out Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Missing Object Detection

When configuring a camera, an object can be specified for Missing Object Detection. After the object is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with Missing Object Detection active.



Source Device: □ All Cameras

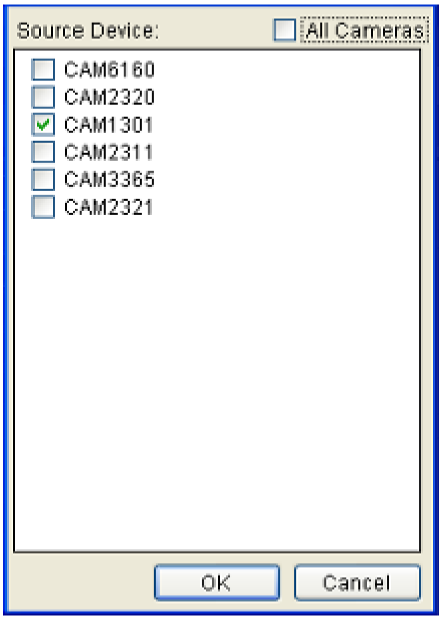
□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

From this menu, click the checkboxes next to the cameras that have Missing Object Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Tampering Detection

When configuring a camera, a detection sensitivity and trigger threshold can be specified for the Tampering Detection. After the detection sensitivity is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Tampering Detection active.



Source Device: □ All Cameras

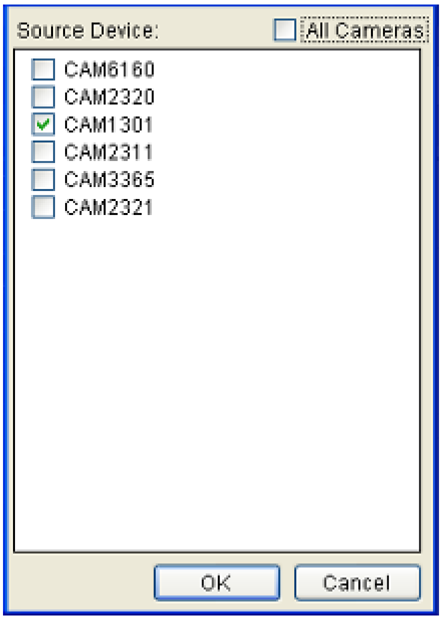
□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

From this menu, click the checkboxes next to the cameras that have Tampering Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Camera Motion Detection

When configuring a camera, a detection area can be specified for Camera Motion Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with Camera Motion Detection active.



Source Device: □ All Cameras

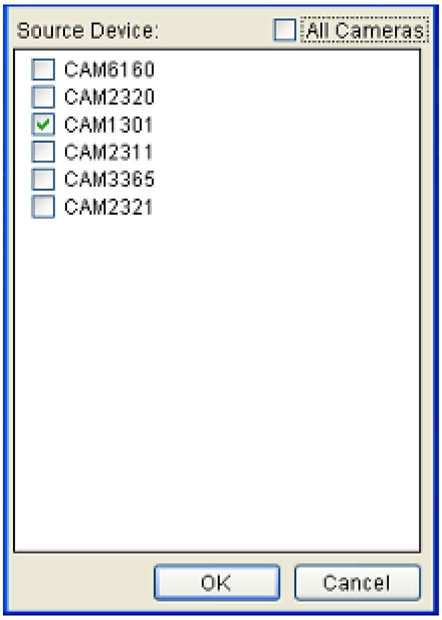
□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

From this menu, click the checkboxes next to the cameras that have Camera Motion Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Virtual Fence

When configuring a camera, a detection area can be specified for Virtual Fence. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with Virtual Fence Detection active.



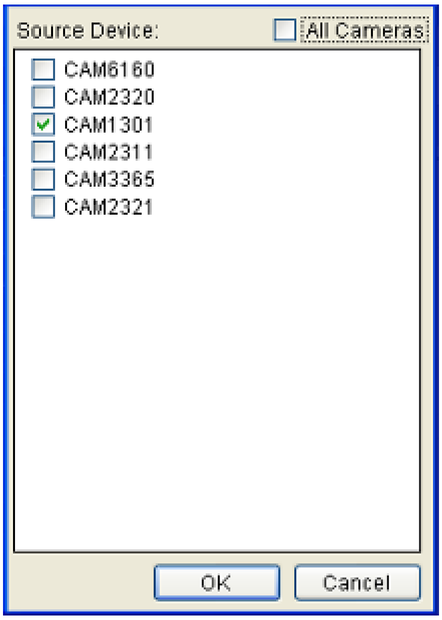
Source Device: ☐ All Cameras

☐ CAM6160
☐ CAM2320
☑ CAM1301
☐ CAM2311
☐ CAM3365
☐ CAM2321

Tailgating Detection

When configuring a camera, a detection area can be specified for Tailgating Detection. After the detection area is specified, detection can be activated and an alarm handling scheme configured in this menu.

Clicking on the **Detail** button will pull up a menu listing all the devices with the Tailgating Detection active.



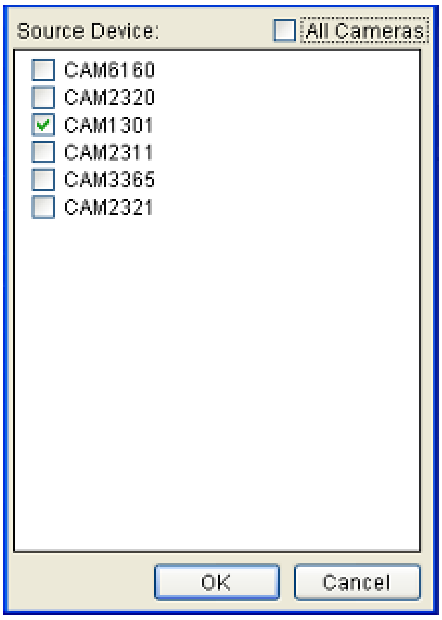
Source Device: ☐ All Cameras

☐ CAM6160
☐ CAM2320
☑ CAM1301
☐ CAM2311
☐ CAM3365
☐ CAM2321

From this menu, click the checkboxes next to the cameras that have Tailgating Detection configured. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

Sensor Input

The alarm is triggered by a sensor input. For example this may include doorway entry sensors that are connected to the camera system. Clicking on the Detail button will pull up the *Sensor Input Settings* menu, listing all the cameras. From this menu, click the checkboxes next to the cameras that will be used to trigger the Alarm. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

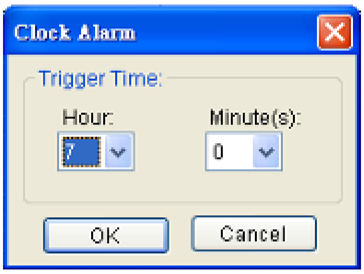


Source Device: □ All Cameras

□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

Clock Alarm

When a preset time is reached, the alarm is triggered. The Clock Alarm is triggered only on the day it is configured. Clicking on the **Detail** button will pull up the *Clock Alarm* menu.



Trigger Time:
Hour: 7
Minute(s): 0

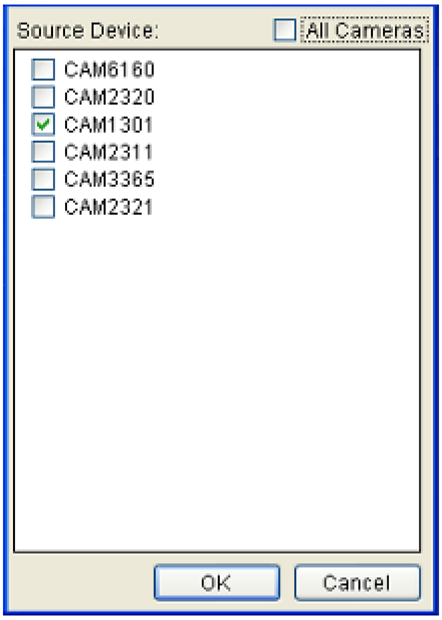
From this popup select the hour and minute the alarm will be triggered. Click the **OK** button to exit the menu.

Disk Error

The alarm is triggered when a disk drive failure occurs.

Video Loss

When video input is lost, the alarm is triggered. Clicking on the **Details** button will pull up the *Video Loss Settings* menu, listing all the cameras. From this menu, click the checkboxes next to the cameras that will be used to trigger the Alarm. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.



Source Device: □ All Cameras

□ CAM6160
□ CAM2320
☑ CAM1301
□ CAM2311
□ CAM3365
□ CAM2321

Alarm Actions

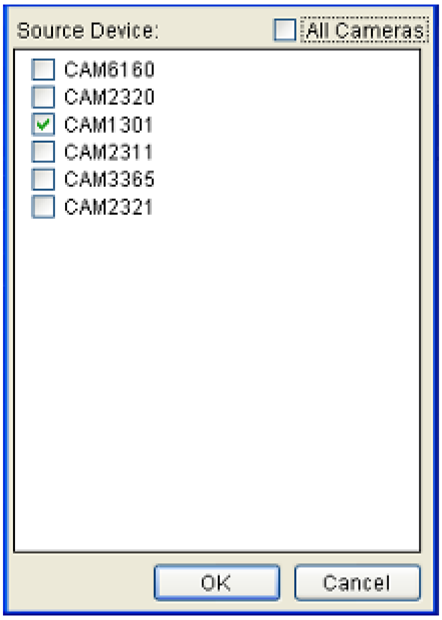
The following alarm actions can be taken when the alarm is triggered:

Event Log

The system issues event messages when the alarm is triggered.

Recording Controls / Video Popup

When the alarm is triggered, the system records video onto the storage. Clicking on the **Action** button will pull up the *Recording Settings* menu.



Source Device: ☐ All Cameras

☐ CAM6160
☐ CAM2320
☑ CAM1301
☐ CAM2311
☐ CAM3365
☐ CAM2321

Use the checkboxes within to select cameras that will be recorded. Optionally, check the **All Cameras** check box to use all the cameras available. Click the **OK** button to exit the menu.

E-Map

When the alarm is triggered, a popup video appears on the local client.

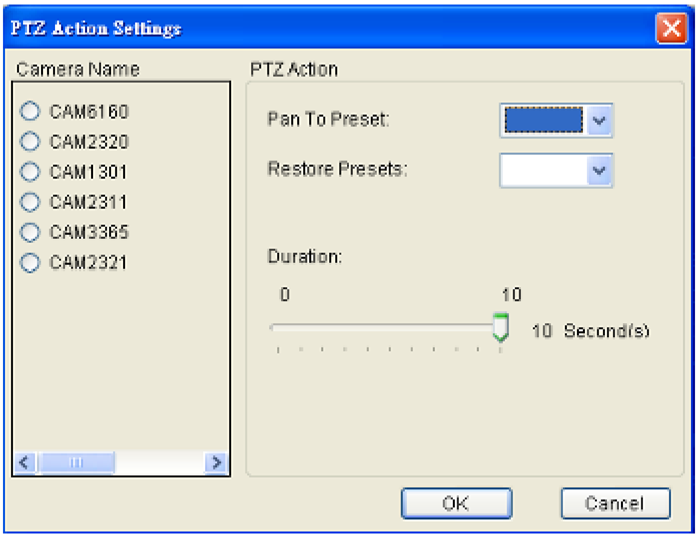
Clicking the **Action** button will pull up a menu.

Video Alarm Panel

This will display the video feed thumbnail in the video alarm panel for review and playback.

PTZ Control

When the alarm is triggered, a Pan-Tilt-Zoom action can be set to slew the camera to a particular position. For example, clicking on the **Action** button brings up the *PTZ Action Settings* menu. In this menu:



1. Choose a camera from the list.

2. Select a preset point from the **Pan to Preset** dropdown that the camera will pan to.

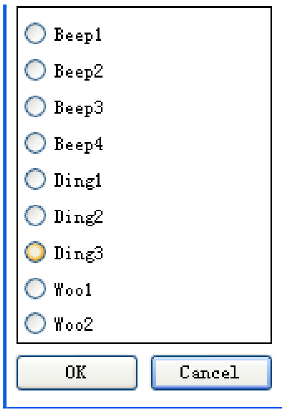
3. Select the preset that the camera will return to from the **Restore Presets** dropdown.

4. Specify a duration that the camera will stay at the **Pan to Action** preset before returning to the **Restore to Preset** preset using the **Duration** slider. Click **Apply** to save the settings.

5. Click **OK** to exit the menu.

Alarm Sound

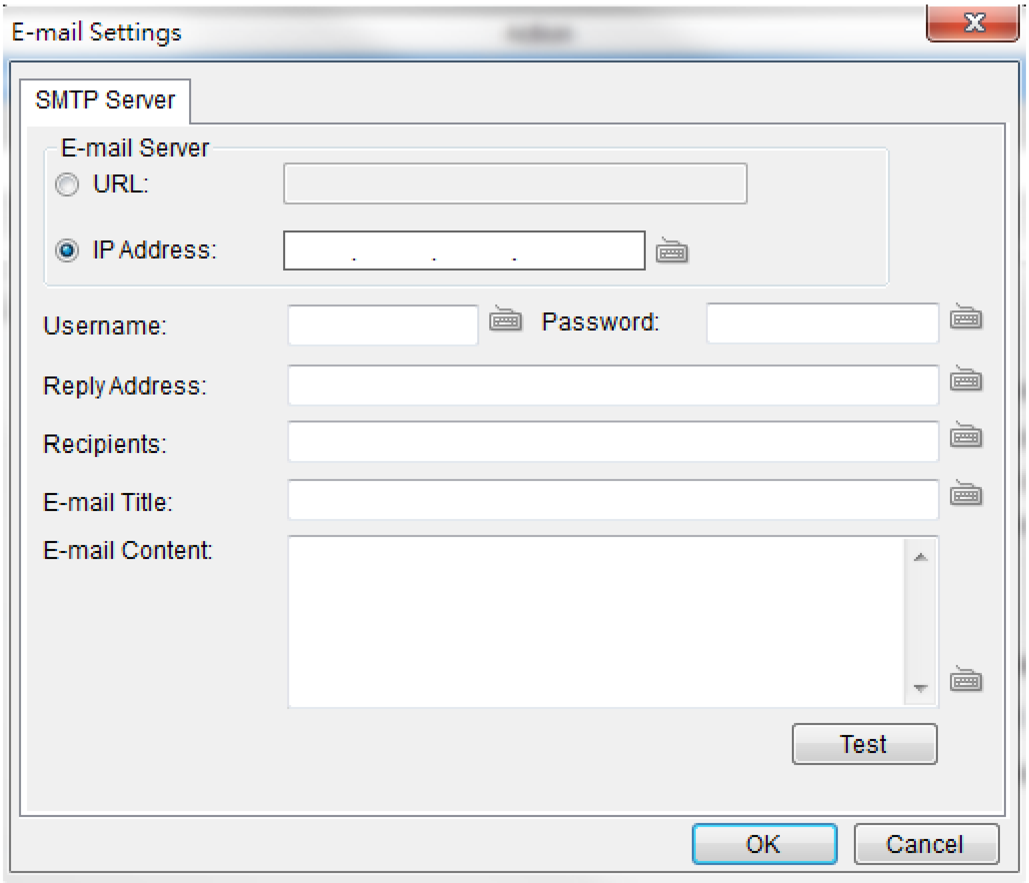
When the alarm is triggered, the system will play an audible alarm sound. Clicking on the **Action** button will pull up the *Warning Sound* menu, listing available sounds.



Choose a sound by clicking the radio box next to the desired sound. Click the **OK** button to exit the menu.

E-Mail

When the alarm is triggered, an E-Mail will be sent. Checking this option will bring up the *E-mail Settings* menu.



E-mail Settings

SMTP Server

E-mail Server

○ URL:

● IP Address: . . .

Username:

Password:

Reply Address:

Recipients:

E-mail Title:

E-mail Content:

1. In the *SMTP Server* tab, under the *E-mail Server* heading, you may either enter the URL (such as smtp.abc.com) or IP address of the SMTP server that the Server will use to deliver E-mail notifications. The SMTP server configured here must support Unicode Transformation Format-8 (UTF-8) encoding.
2. Enter the user name for the Server email account in the **Username** field.
3. Enter the password for the Server email account in the **Password** field.
4. Enter a valid E-mail address in the **Reply Address** field. This address will be the default sender listed in E-mails sent from the Server.

5. Enter one or more E-mail addresses in the **Recipients**: field. These address(es) will receive notifications from the Server. Multiple addresses can be entered by separating individual addresses with semi -colons ";".

6. Enter the subject of your notification E-mails, e.g., Server-xxxsite1notification in the **E- Mail Title** field.

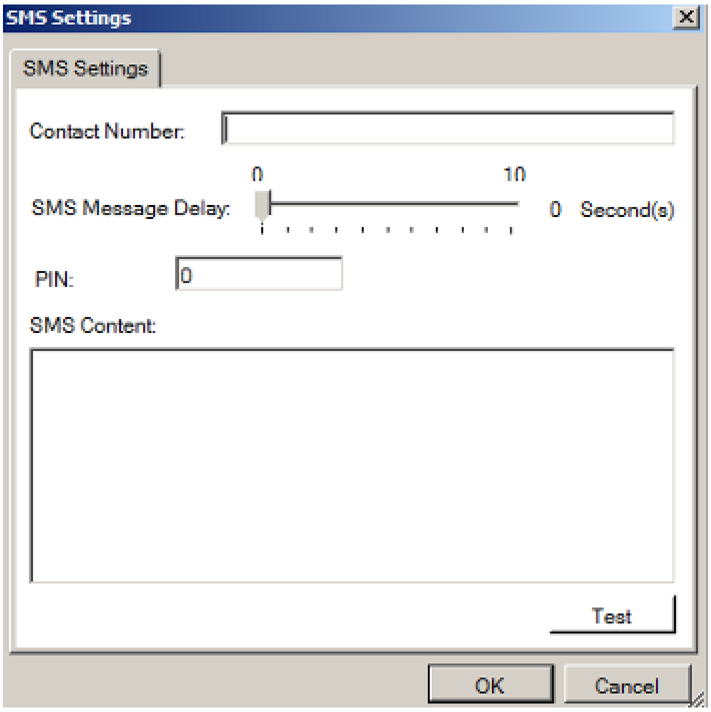
7. Enter a short message in the large field to describe the Server or a surveillance network.

8. **(Optional)** Click **Test** to send a test message to the E-mail addresses listed.

9. Click the **OK** button to exit E-mail settings.

SMS

When the alarm is triggered, an SMS message will be sent. Checking this option will bring up the *SMS Settings* menu.



SMS Settings

SMS Settings

Contact Number:

SMS Message Delay: 0 Second(s)

PIN: 0

SMS Content:

Note: Drivers for supported GSM/GPRS modems have already been installed on the server. Currently, only the **WaveCOM-M1206B** is supported. Use COM1 on the Server to connect to a GSM modem.

1. In the **Contact Number** field, enter the phone numbers that will receive SMS notifications. Be sure to include the area code, e.g., "86", in front

of phone numbers. Use commas, "," to separate individual phone numbers.

2. Use the slider bar to select a delay between the occurrence of an event and SMS message delivery.

3. **(Optional)** If a SIM PIN is required, enter the PIN code in the **PIN** field. Note that applying incorrect PIN code may disable your SIM card.

Note: To change the PIN code, remove the SIM card from your GSM modem. Use a cell phone to change the PIN code and then re -install SIM card into the GSM modem. Changing PIN codes is not recommended because a configuration failure may disable your SIM card.

4. In the **SMS Content** field, type a simple description to include in the outgoing SMS messages

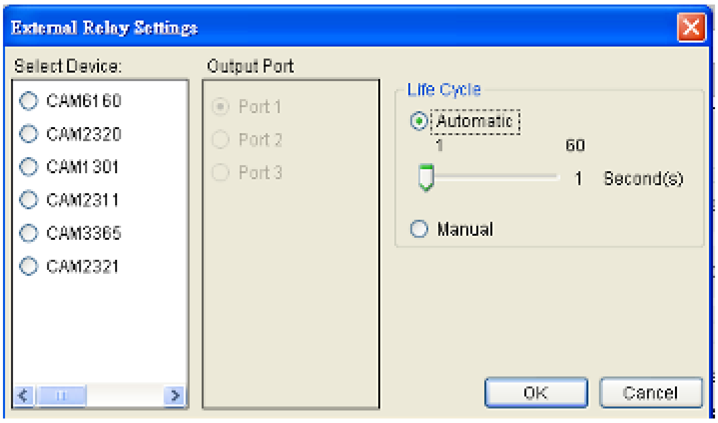
5. **(Optional)** Click **Test** to send a test message to the phone numbers listed.

6. Click the **Apply** button to apply the changes.

7. Click the **OK** button to exit SMS settings.

Relay Output

When the alarm is triggered, a signal will be relayed to an external source such as a light switch, siren, or other external link. Clicking on the **Action** button brings up the *External Relay Settings* menu. In this menu:



1. Choose a camera from list.

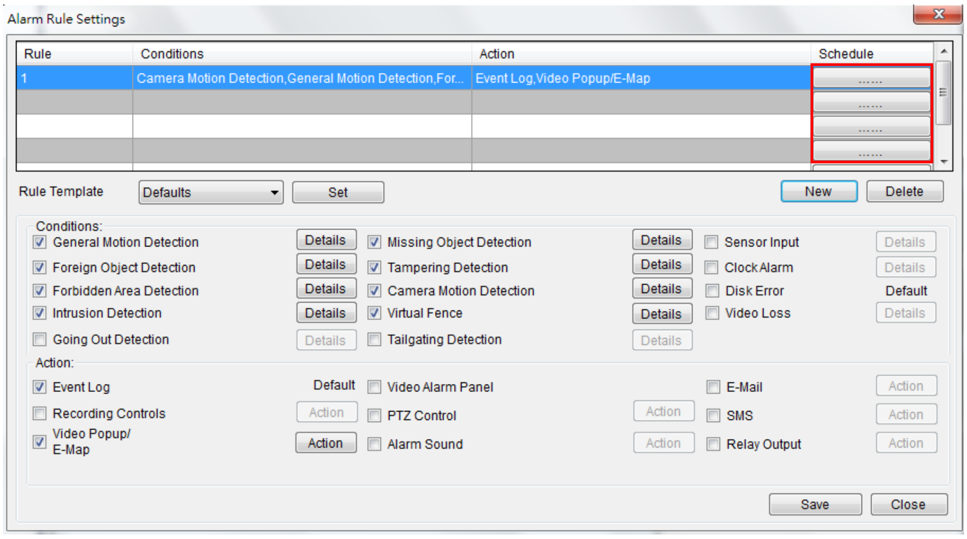
2. Select an output port to relay to.

3. Select output duration, from 0 to 60 seconds.

4. Click the **OK** button to exit the menu.

Alarm Scheduling

When the alarm is created, click the ……button located in the scheduling column of the alarm listing to bring up the *Alarm Rule Schedule* menu. This displays a table with the days of the week as the columns, and hours as the rows, allowing the user to schedule the alarm on exact hours.

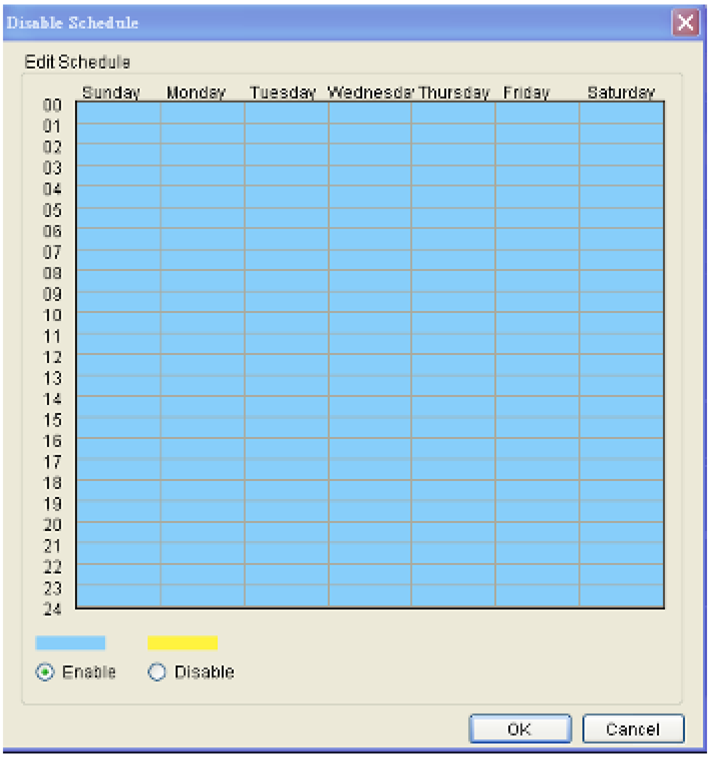

Alarm Rule Settings

Rule	Conditions	Action	Schedule
1	Camera Motion Detection,General Motion Detection,For...	Event Log,Video Popup/E-Map	......
			......
			......
			......

Rule Template: Defaults

Conditions:
- ☑ General Motion Detection
- ☑ Foreign Object Detection
- ☑ Forbidden Area Detection
- ☑ Intrusion Detection
- □ Going Out Detection
- ☑ Missing Object Detection
- ☑ Tampering Detection
- ☑ Camera Motion Detection
- ☑ Virtual Fence
- □ Tailgating Detection
- □ Sensor Input
- □ Clock Alarm
- □ Disk Error (Default)
- □ Video Loss

Action:
- ☑ Event Log (Default)
- □ Recording Controls
- ☑ Video Popup/ E-Map
- □ Video Alarm Panel
- □ PTZ Control
- □ Alarm Sound
- □ E-Mail
- □ SMS
- □ Relay Output



◉ Enable ○ Disable

From this menu, use the following steps to schedule the alarm:

1. Choose the rule that you wish to apply the schedule to.
2. Click the **Enable** or **Disable** button to bring up a “paintbrush.”
3. Click the cursor on the table to “paint” in a schedule. You may click and drag to paint a wide area.

For example, if you wish to disable the alarm on Tuesday at 6pm, you would click the box Tuesday-18:00. Disabled time periods are highlighted in yellow.

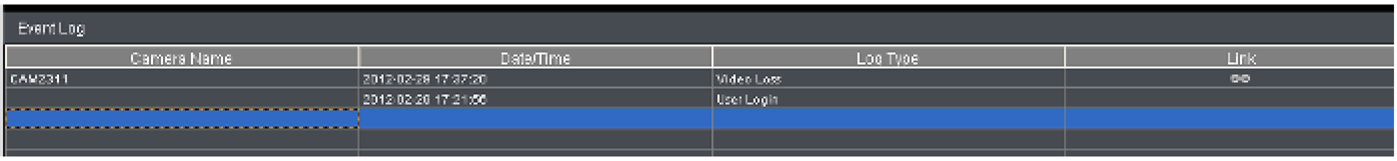
Click the **OK** button to apply the changes and exit the menu.

10.3. Alarms View and Notification

There are three main ways that Alarm information is displayed when in the live view mode.

10.3.1. Live View Event Log

The first way that Alarms are displayed is in the Event Log section of the live view screen. As alarms come in, they are displayed in this area. The area can be minimized using the double arrow at the top right corner of the area.



Event Log

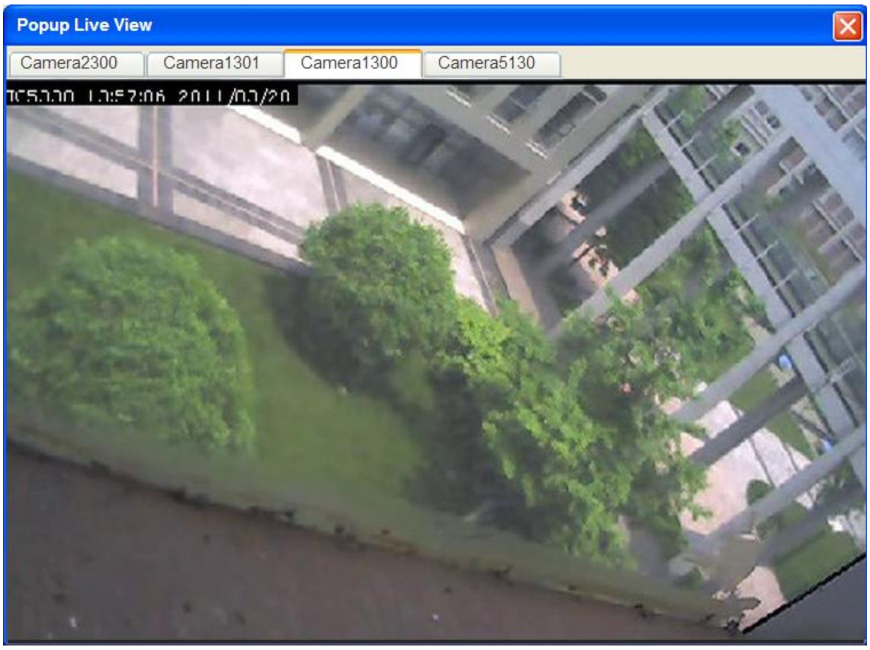
Camera Name	Date/Time	Log Type	Link
CAM2311	2012-02-28 17:37:20	Video Loss	🔗
	2012-02-28 17:21:56	User Login	

The Event Log displays the camera the alarm occurred on, the date, the alarm type, and if applicable a link to the live-view feed of the camera. Clicking on the link will open the camera’s live-view in a popup.

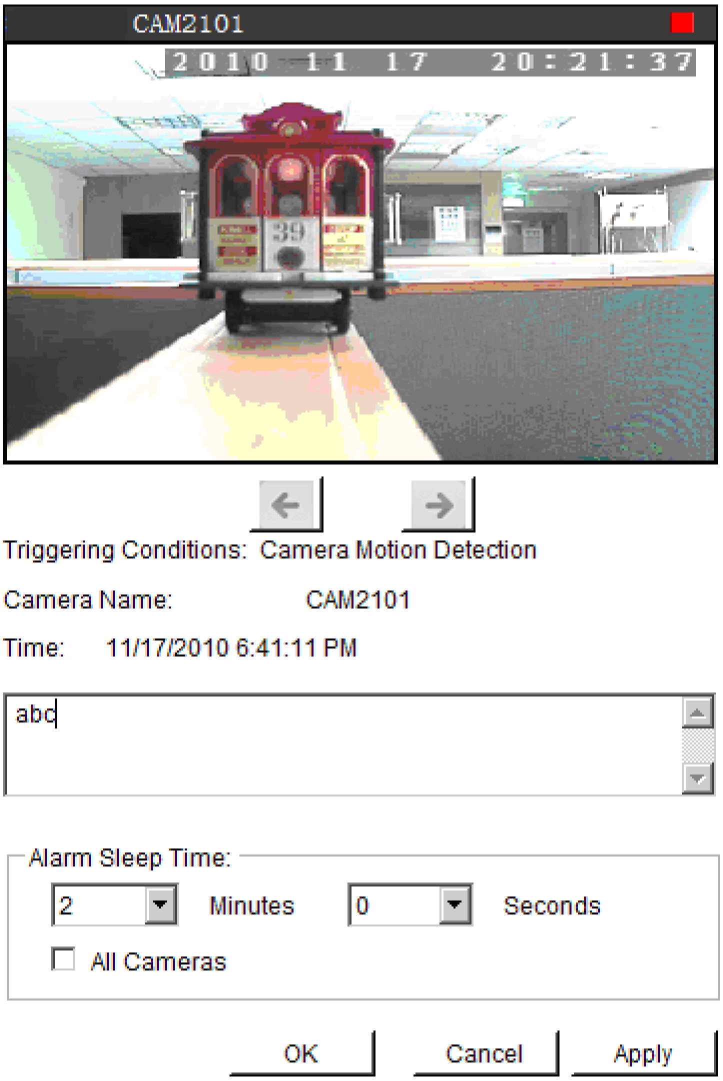
10.3.2. Alarm Popups

Alarms can be configured to display a popup window when triggered.

Up to 4 windows can be popped up at the same time. If there’s a fifth alarm occurs, the VMS will close the oldest popup window and show the new popup.



When the alarm is triggered the **Open Popup Window** button will flash red. When this occurs, clicking the button will open a popup.



Triggering Conditions: Camera Motion Detection

Camera Name: CAM2101

Time: 11/17/2010 6:41:11 PM

abc

Alarm Sleep Time:

2 Minutes 0 Seconds

☐ All Cameras

The popup will display the alarm trigger condition, the camera that triggered the alarm as well as live feed from this camera, the time of the alarm, and a custom configurable message. Any additional popups can be viewed using the left and right arrows located below the video feed.

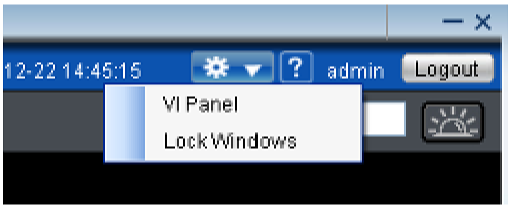
Setting Popup Sleep Time

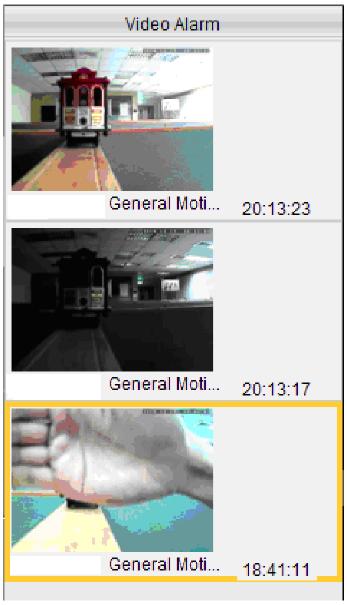
A skip time, in which similar alarms will not trigger a popup for the camera in question, can be configured in the *Alarm Sleep Time* box. Using the drop-downs, specify the number of minutes and seconds of skip time. Click **Apply** to save your settings.

Clicking the **OK** button will close the window and save the sleep settings. Clicking the **Cancel** button will close the window without saving the sleep settings.

10.3.3. Video Panel

Alarms can be configured to display in the *Video Panel*, located to the left of the main viewing area. When an alarm configured in this manner is triggered, a thumbnail of the triggering event will be displayed in the panel, and actions can be taken from this panel.





.

Note: VI Panel functionality can also be enabled under ***Server*** > ***Other Tasks*** > ***VI Panel*** in the VMS Console.

Playback from Video Alarm Panel

The server is configured to record up to 45 minutes of video after an alarm is triggered. To play back this video, right click the thumbnail and select **Play> [Time Length]**. A popup will open with the desired playback. Time lengths available are dependent on, and will not exceed the post-alarm recording time set in Pre/Post Alarm Recording Settings.

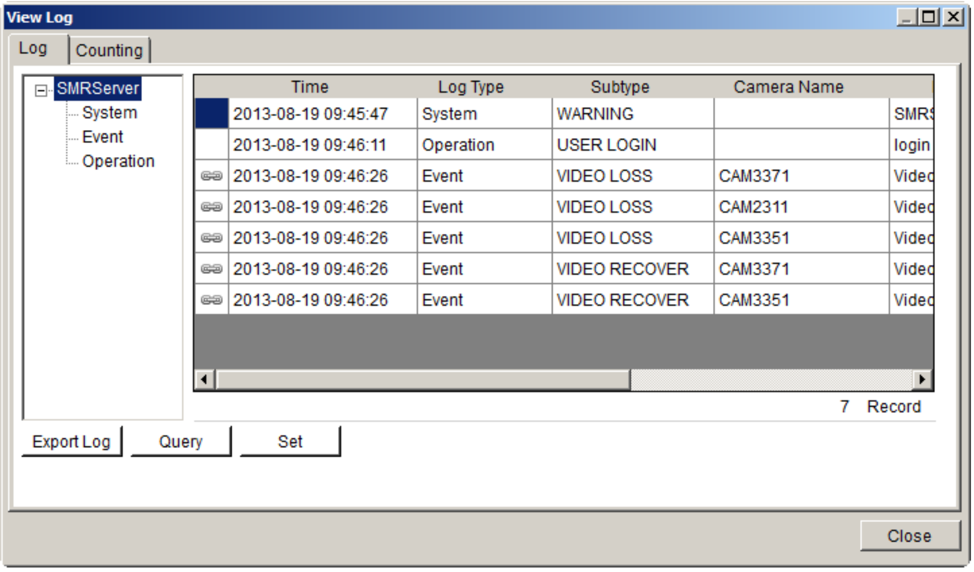
Tagging an Alarm Thumbnail

Another unique feature of alarms in the alarm panel, is that they can be tagged for future reference. To tag the alarm, right-click the thumbnail and select **Mark > [Label].** Labels available are dependent on system configurations, but the default labels are *Mark*, *Check*, *Clear*, *Suspicious*.

10.4. Event Log

The event log is a comprehensive repository of all the events that occur on the system. To access the event log after logging into the system, the system log can be accessed by right-clicking the Server entry and choosing the **View Log** entry. The *View Log* window will display.

The log viewer displays events, split into three types, System events, which deal with individual modules, Camera events, which deal with cameras and Operational events which deal with users.



Time	Log Type	Subtype	Camera Name	
2013-08-19 09:45:47	System	WARNING		SMRS
2013-08-19 09:46:11	Operation	USER LOGIN		login
2013-08-19 09:46:26	Event	VIDEO LOSS	CAM3371	Videc
2013-08-19 09:46:26	Event	VIDEO LOSS	CAM2311	Videc
2013-08-19 09:46:26	Event	VIDEO LOSS	CAM3351	Videc
2013-08-19 09:46:26	Event	VIDEO RECOVER	CAM3371	Videc
2013-08-19 09:46:26	Event	VIDEO RECOVER	CAM3351	Videc

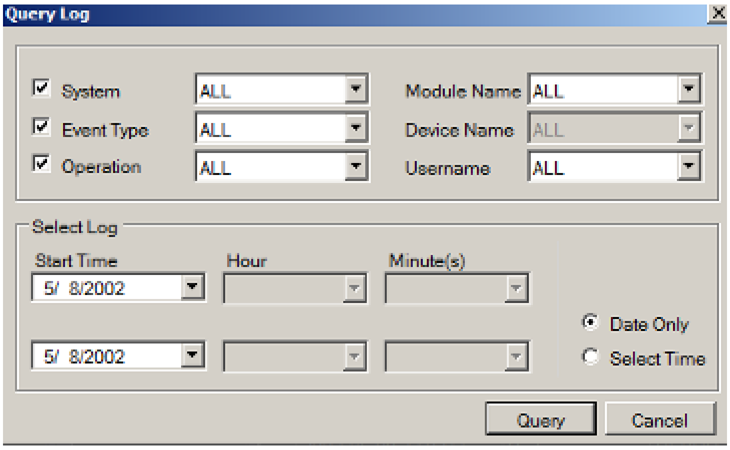
Note: Event Log can also be viewed by clicking ***Server Entry*** > ***Common Tasks*** > ***Common Server Tasks*** > ***View Log*** or ***Server*** > ***General Tasks*** > ***View Log*** in the VMS Console.

10.4.1. Exporting a Log

If log entries exist, they may be exported by clicking on the **Export Log** button at the bottom of the View *Log* screen. This will open a dialog box, which prompts the user to choose a location, and fill in a name for the saved log. Fill out the location and filename information and click **OK** to save the logfile.

10.4.2. Searching the Event Log

Within the *View Log* screen, click the **Query** button to bring up the *Query Log* dialog box.



Query Log

☑ System: ALL

☑ Event Type: ALL

☑ Operation: ALL

Module Name: ALL

Device Name: ALL

Username: ALL

Select Log

Start Time: 5/ 8/2002

5/ 8/2002

● Date Only

○ Select Time

Within this dialog, the user may choose to narrow the search to the three major event types by selecting the checkbox beside the event type:

System Type

These are errors that occur within individual system modules. In the corresponding selection box, the user can specify a severity (debug, warning, error and fatal in increasing severity) of the event. The user may also choose to search all of the severities.

Module Name

The corresponding subfield for *System Type* is *Module Name*. In this selection box, the user can specify a module to search for errors on. The user may also choose to search over all modules by choosing **All**.

Event Type

These include errors that occur with cameras. Events include motion detection, video loss, sensor input, clock alarm, disk error and RAID failure. The user may also choose to search over all these types.

Source Device

This subfield contains a list of all the cameras installed on the system. The events can be further narrowed to focus on a single camera by choosing it, or the search can be done over all cameras by choosing **All**.

Operation Type

These events include the console startup and stop, system usage, and other events that occur during system operation.

User Name

Using the *User Name* subfield a search can be narrowed down to an individual user. This selection list contains all the users configured on the system. All the users can be included by selecting **All.**

Performing a Search

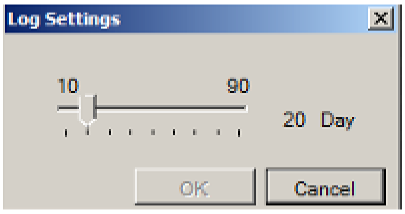
To perform a search of the log files:

1. If desired, narrow the search by selecting an event type and subfield to search over. More than one event type can be searched.
2. Choose a start date and an end date to search over using the calendar drop-downs.
3. If desired, click **Select time** and select an hour and minute for the start and end times to further narrow the search.
4. Click the **Query** button. The results will show in the main *View Log Screen*. Mousing over individual entries will display the details for that entry at the bottom of the *Log Viewer*.

10.4.3. Event Log Setup

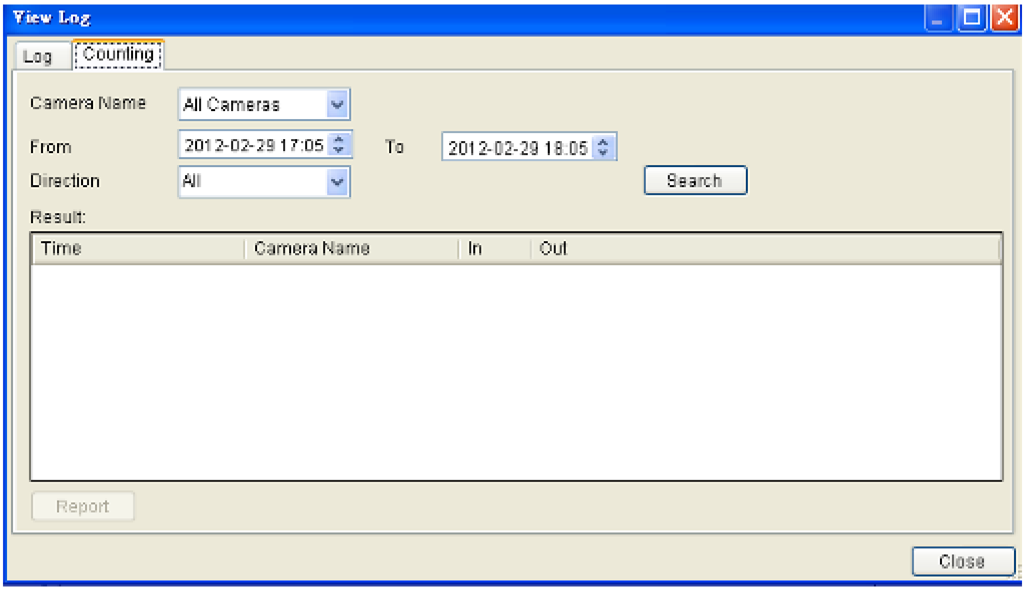
The event log settings can be changed by clicking on the **Set** button located at the bottom of the *View Log* screen.

From this screen, the slider can be adjusted set the number of days that the system will store each type of log. Days range from 10 to 90 days.



10.4.4. Log for Object Counting

Users can adjust the object counting duration and see the statistical results by choosing the *Counting* tab in the *View Log* Window.



Camera Name: All Cameras

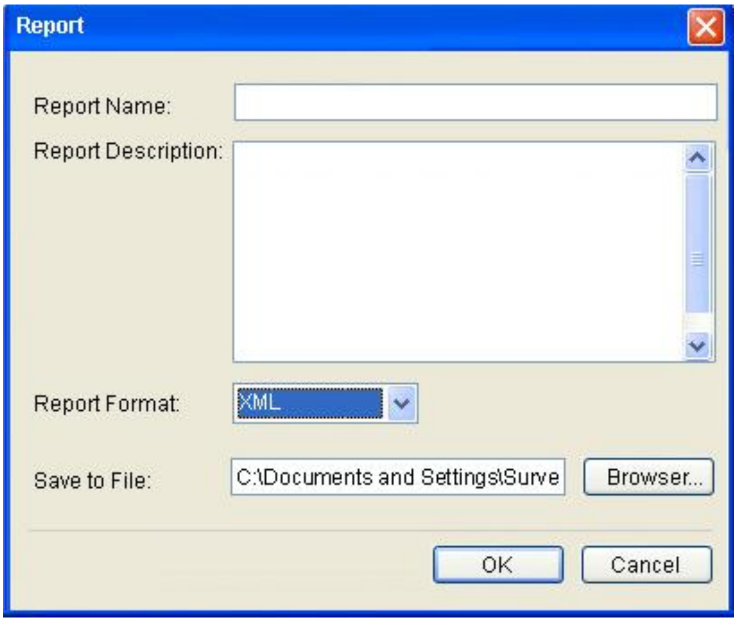
From: 2012-02-29 17:05 To: 2012-02-29 18:05

Direction: All

Result:

Time	Camera Name	In	Out

Object counting report can be exported by clicking the Report button:



Report Name:

Report Description:

Report Format: XML

Save to File: C:\Documents and Settings\Surve

1. Input the report name and report descriptions:
   - **Report name**: Cannot be NULL. MAX: 64 bytes.
   - **Report description:** MAX: 1024 bytes.
2. Select the report format.
3. Specify a directory for file saving.

10.4.5. System Alarm View

In addition to the event log, the system alarms will also be displayed at the bottom of the Live View screen.

Chapter 11. Search and Playback

In many cases, such as investigations or for reference purposes, it may be useful to be able to replay video streams. The Server has the ability to store video from the IP cameras, as well as playback and export this video information.

11.1. Introduction

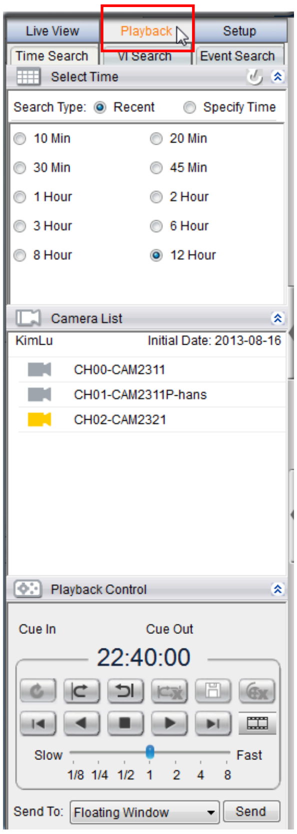
Note: You must be logged **into** a server to access playback functionality.

The VMS has 3 distinct playback functions:

- Time Search – Plays back according to a time period specified by the user.
- VI Search – Applies a VI functionality to a recorded video stream.
- Event Search – Searches the video stream for distinct events.

Note: Event Search is recommended rather than VI Search, since VI Search uses more bandwidth.

These functions may be accessed by clicking on the *Playback* tab located directly above the *Device Browser* window in the live view screen.



Search Type: ● Recent ○ Specify Time

○ 10 Min ○ 20 Min
○ 30 Min ○ 45 Min
○ 1 Hour ○ 2 Hour
○ 3 Hour ○ 6 Hour
○ 8 Hour ● 12 Hour

KimLu Initial Date: 2013-08-16

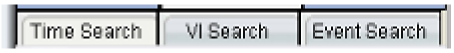
CH00-CAM2311
CH01-CAM2311P-hans
CH02-CAM2321

22:40:00

Send To: Floating Window

11.2. Date/Time Search

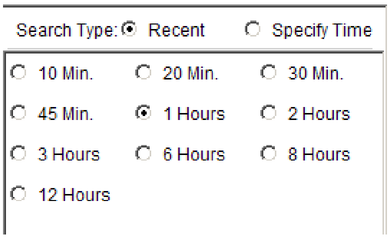
Time based playback can be accessed using the **Time Search** tab at the top of the screen. This search allows you to specify the time of the clip you want to view.



11.2.1. Time Selection

There are two types of time selections that can be made: Recent Time and Specified Time.

Recent Time



Search Type: ● Recent ○ Specify Time

○ 10 Min. ○ 20 Min. ○ 30 Min.

○ 45 Min. ● 1 Hours ○ 2 Hours

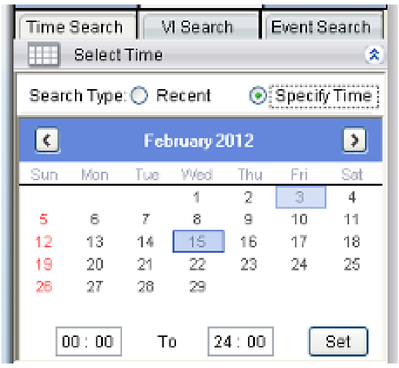
○ 3 Hours ○ 6 Hours ○ 8 Hours

○ 12 Hours

To perform a recent time search, click the **Recent** option in the time selection box. Choose one of the simple time choices to perform playback/search from that time period.

Specified Time

A specified time search can be selected by choosing the **Specify Time** option from the time selection box, and involves defining a time and date for the playback/search. Using the calendar and time boxes, specify a specific period to search/playback.



Search Type: ○ Recent ● Specify Time

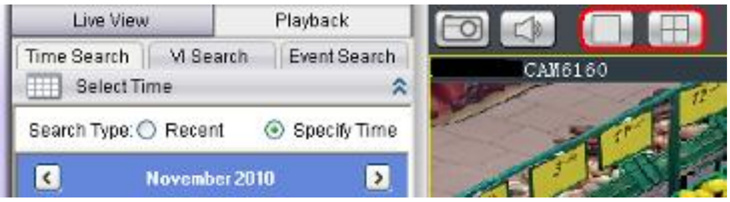
February 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

00 : 00 To 24 : 00 Set

11.2.2. Use of 1x/4x Views

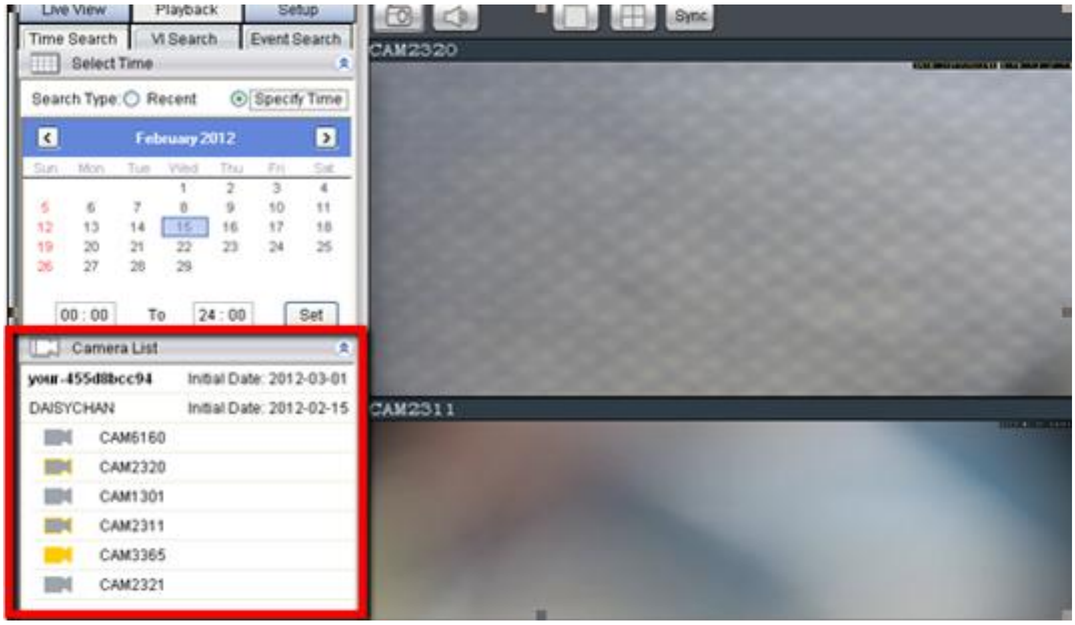
Users have the option of viewing up to 4 recorded video streams at once, or just one stream at a time. Either of these options can be chosen by clicking on corresponding button in the button area above the main view screen. In both cases functionality and operation is the same.



Note: 4x view is not available for SMR series.

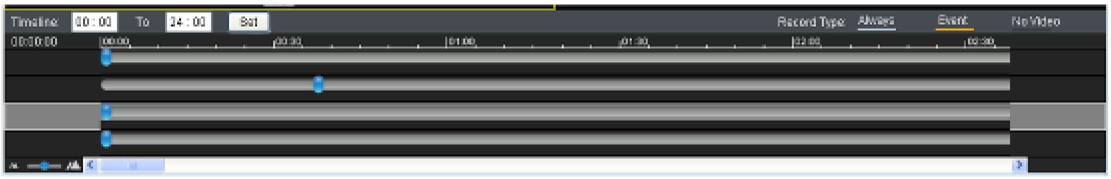
11.2.3. Camera Selection

Once a time period has been selected, the cameras available for each period will be listed in the *Camera List*. These cameras can then be dragged into one the search/playback box (es).



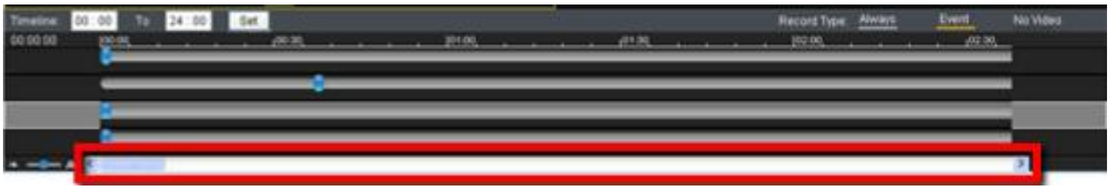
11.2.4. Timeline

After choosing the cameras to view, the timeline for the camera is displayed below the video window.


Timeline: 00 : 00 To 24 : 00 Set
Record Type: Always Event No Video
00:00:00
00:00
00:30
01:00
01:30
02:00
02:30

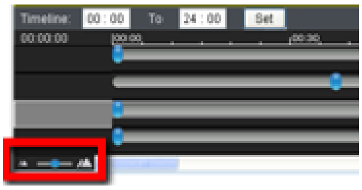
The timeline window displays a graphic representation of the video information available for the camera on the date and timeframe you have chosen in the *Select Date* window. You may choose to reset the timeframe to be displayed by using the dropdown at the top of the timeline.

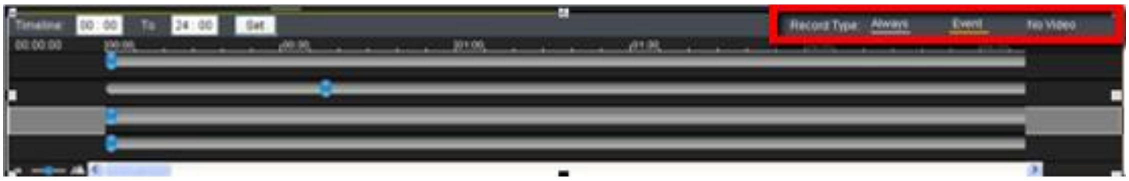
The timeline will, at most, show a period of a little more than 3 hours. If the timeframe that you desire to view is larger than this, the remaining portion of the timeline can be viewed by using the scrollbar located beneath the timeline.


Timeline: 00 : 00 To 24 : 00 Set
Record Type: Always Event No Video
00:00:00
00:00
00:30
01:00
01:30
02:00
02:30

The amount of time displayed in the timeline can also be adjusted using the slider located next to the scrollbar. Sliding the indicator toward the right will cause a smaller amount of time to be displayed along the length of the timeline. In 4 camera mode, the timelines for the separate feeds will be locked to the same time period.

Once a timeline is loaded, the viewer will be able to see what kind of information is available. The timeline will be divided into 5-minute segments, with each segment colored according to what type of information it contains.




Timeline: 00 : 00 To 24 : 00 Set
Record Type: Always Event No Video
00:00:00
00:00
00:30
01:00
01:30

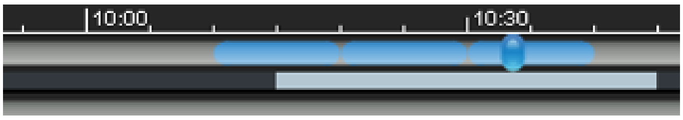
The colors are explained below:

Color	Meaning
Light Grey	The camera was set to Record Always and there is video
Yellow	Video due to an alarm trigger
Dark Grey	There is no video for this segment.

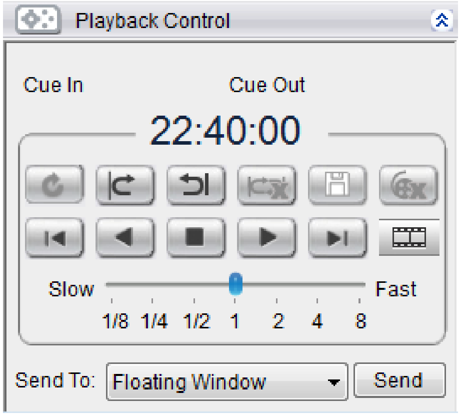
There are also two types of events that will be recorded on the timeline. These events will be displayed as vertical striping on the normal color. If a motion sensor has been triggered during a period of recording, vertical red stripes will appear, and if another type of sensor (pressure, window/door, etc) is triggered, vertical red stripes will also appear.

11.2.5. Playback

Once a timeline has been loaded, you may choose the point to begin playback. This is done by clicking the timeline. After selecting the start point you may start playback.



To start playback of a camera's video feed, ensure that the video is selected (the pane, timeline and camera name will be highlighted in yellow). Select feeds by clicking the corresponding pane, timeline, or camera name. Once you have selected a camera, you may use the buttons in the *Playback Control Area* to control the playback. Playback time is denoted above the control buttons.



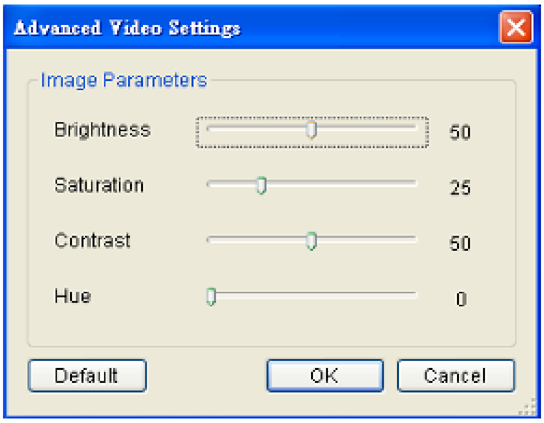
Note: The system may take a while to buffer the video before playback starts. A status line above the timeline will indicate portions that have been buffered. Jumping to unbuffered points in the video will cause the system to display an error message.

Clicking on a selected portion of the timeline will cause playback to jump to the point that you have clicked on. You must start playback separately for each feed you wish to view.

The following table explains the buttons:

▶	Starts video playback.
◀	Reverses video playback.
■	Stops video playback.
▶|	Jumps to the next segment.
|◀	Jumps to the previous segment.
|⊂✕	Clears the cue-in and cue-out markers.
|⊂	Set Cue-In marker for clip start
⊃|	Set Cue-Out marker for clip end
⟳	Loop, continuous playback within Cue-In & Cue-Out
💾	Saves video clips/Exports selected clips.
✕	Deletes selected clips
🎞	Real time mode
❐	Frame by frame mode
★	Just key frame mode

Advanced Video Settings



Brightness 50

Saturation 25

Contrast 50

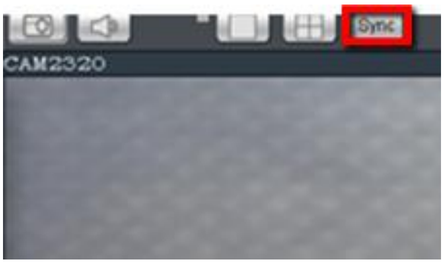
Hue 0

Right-clicking a panel and selecting **Advanced Video Settings** will bring up a menu that allows you to drag sliders and adjust the following:

- Brightness
- Saturation
- Contrast
- Hue

Synchronized Playback

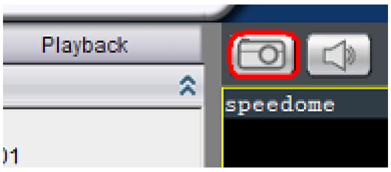
At most 4-channel concurrent and synchronized playback can be displayed by clicking the **Sync** button in the button area.



Note: 4-channel synchronized playback is not available for SMR series.

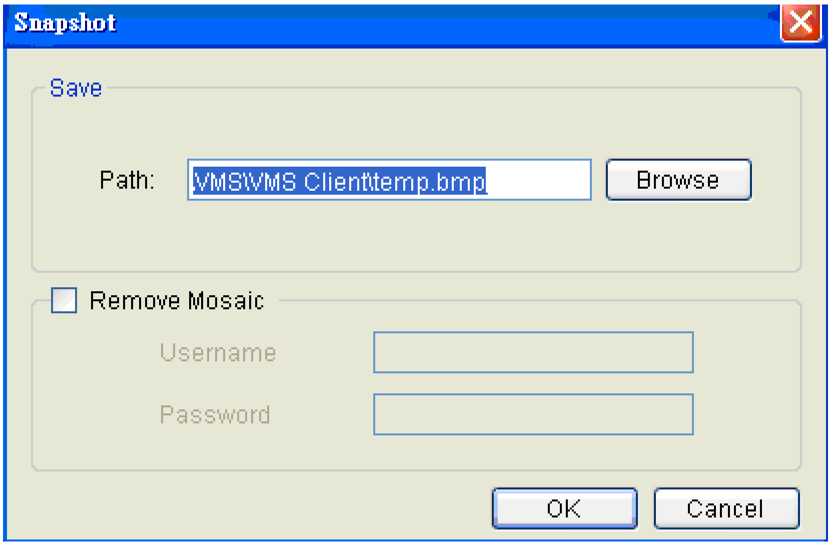
Capturing Screenshot

1. Click the **Capture** button located in the button area.



2. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.

3. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.



Path: VMS\VMS Client\temp.bmp

4. Click **OK** to save the screenshot.

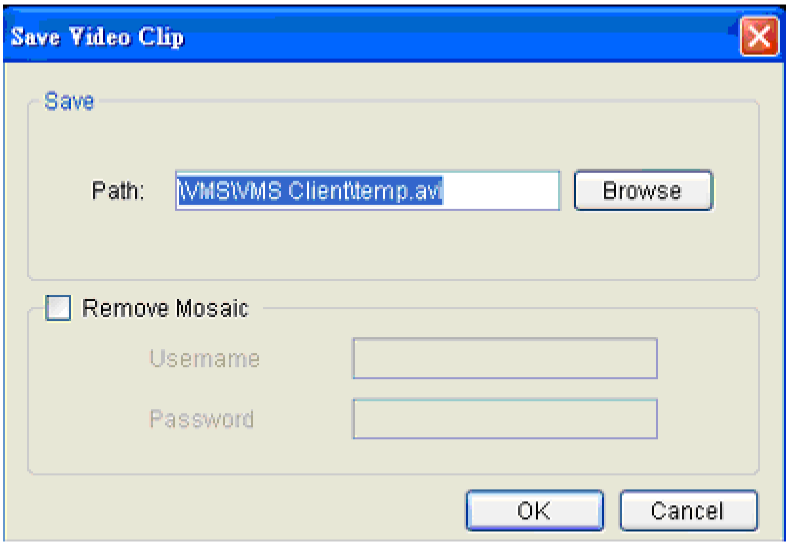
Capturing Video Clip

1. Make sure that the video clip is playing.

2. When the beginning of the segment to be captured is reached, click the **Cue In** button.

3. When the end of the segment to be captured is reached, click the **Cue Out** button.

4. Click the **Save Video Clip** button beside the **Cue In** and **Cue Out** buttons. A system popup will open prompting for a filename and location for the video clip.



Path: \VMS\VMS Client\temp.avi

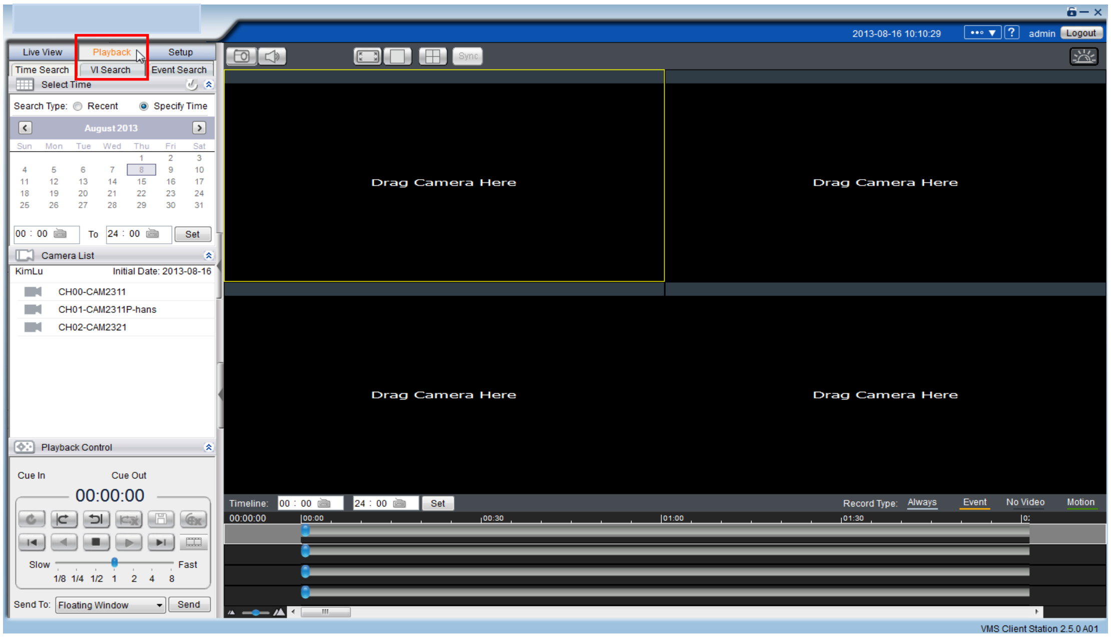
□ Remove Mosaic

5. **(Optional)** Change the filename and file path. If you do not change the file details, the default save location for the video clip will be your installation path.

6. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.

10.3. VI Search

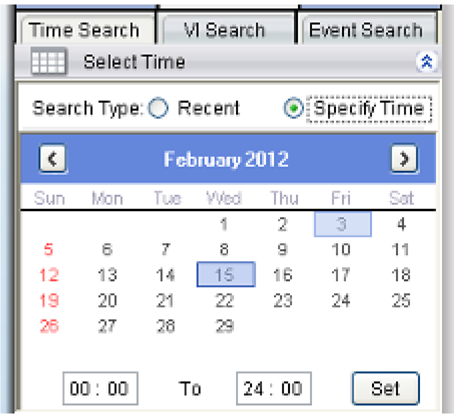
A VI search involves applying VI to existing recorded video in order to locate a specific event or action. To access the VI search, click the *VI Search* tab in the *Playback* context.



10.3.1. Creating a VI Search

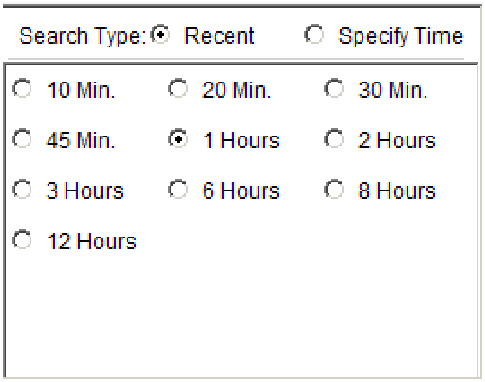
Time Selection

There are two types of time selections that can be made for each playback: Recent Time and Specified Time.



Recent Time

To perform a recent time search, click the **Recent** option in the time selection box. Choose one of the simple time choices to perform playback/search from that time period.



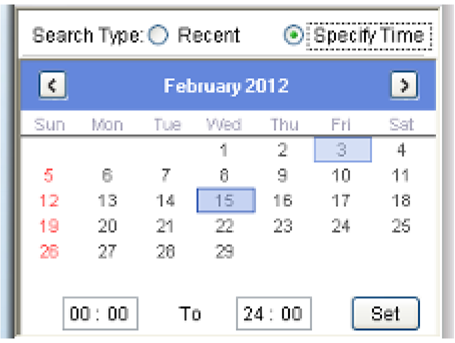
Search Type: ● Recent ○ Specify Time

○ 10 Min. ○ 20 Min. ○ 30 Min.
○ 45 Min. ● 1 Hours ○ 2 Hours
○ 3 Hours ○ 6 Hours ○ 8 Hours
○ 12 Hours

Specified Time

A specified time search can be selected by choosing the **Specify Time** option from the time selection box, and involves defining a time and date for the playback/search.

Using the calendar select a date for search/playback. Once a date is selected, clicking on the boxes will allow you to specify a specific period to search/playback in 10 minute increments.



Search Type: ○ Recent ● Specify Time

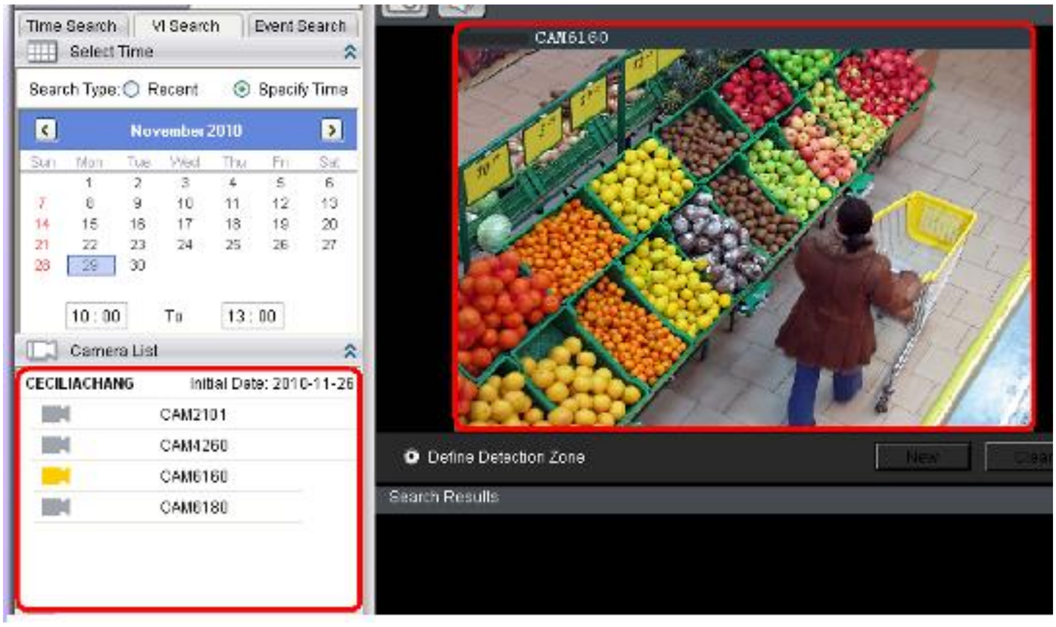
February 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

00 : 00 To 24 : 00

Camera Selection

Once the search time range has been specified, a list of cameras with video recorded during the period specified will appear in the *Camera List*.



Search Type: ○ Recent ● Specify Time

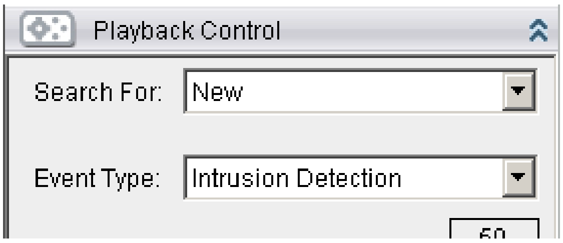
10 : 00 To 13 : 00

CECILIACHANG Initial Date: 2010-11-26

CAM2101
CAM4260
CAM6160
CAM6180

Select a camera to perform the VI search on by clicking its entry. This will display an initial thumbnail of the camera output.

Setting New Search Criteria

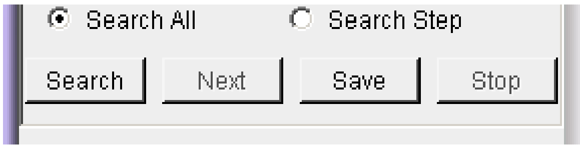


Search For: New

Event Type: Intrusion Detection

To create a New VI search:

1. **New** in the playback control.
2. Follow directions in the following sections to set up the VI search.
3. Once the VI search is set up select either:
   - **Search All -** Finds all events within the search range that trigger the VI set up.



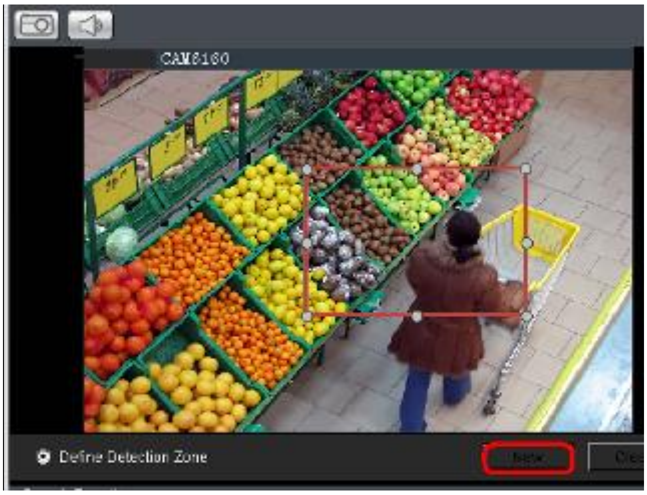
   - **Search Step** – Finds the first event that triggers the VI, then stops. The next event can be found by repeating the same search.

Click **Search** to begin the VI Search.

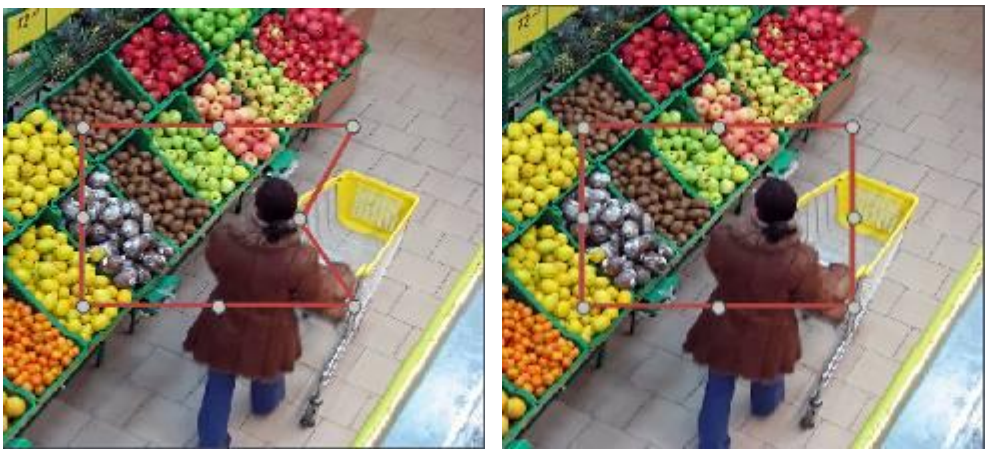
General Motion Detection

General motion detection involves detecting motion in specified areas. To set up General Motion Detection:

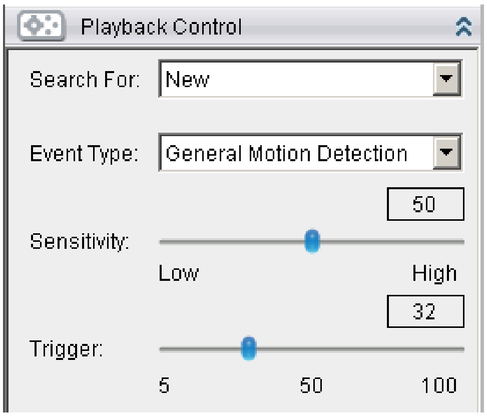
1. Select General Motion Detection from the Event Type dropdown.
2. **New** button to create a detection window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.



3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area of detection is covered.



4. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)



Playback Control

Search For: New

Event Type: General Motion Detection

Sensitivity: 50

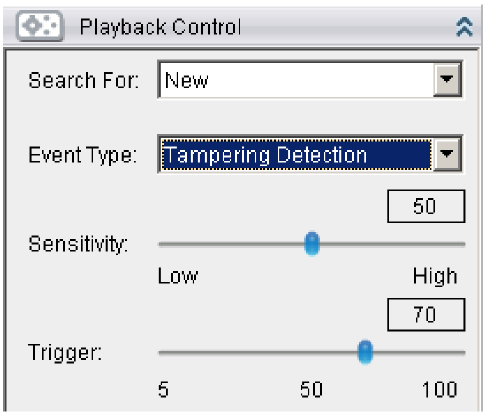
Trigger: 32

- **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
- **Trigger -** Adjusts the amount of change allowed before and event is triggered.

Tampering Detection

Tampering detection involves using the software to determine when the camera has been improperly moved or redirected. To configure:

1. Select Tampering Detection from the Event Type dropdown.
2. Adjust the sliders:
   - **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Trigger -** Adjusts the amount of change allowed before an event is triggered.



Playback Control

Search For: New

Event Type: Tampering Detection

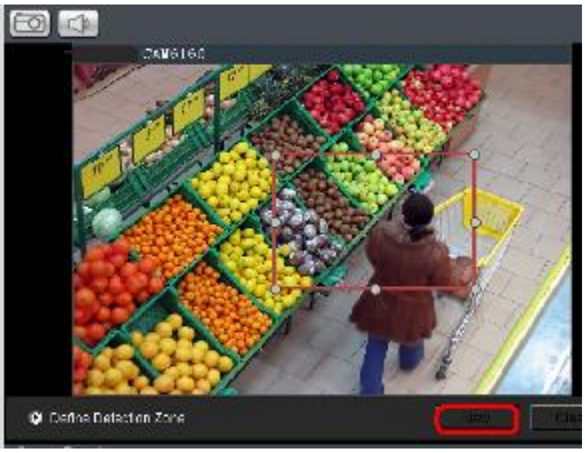
Sensitivity: 50

Trigger: 70

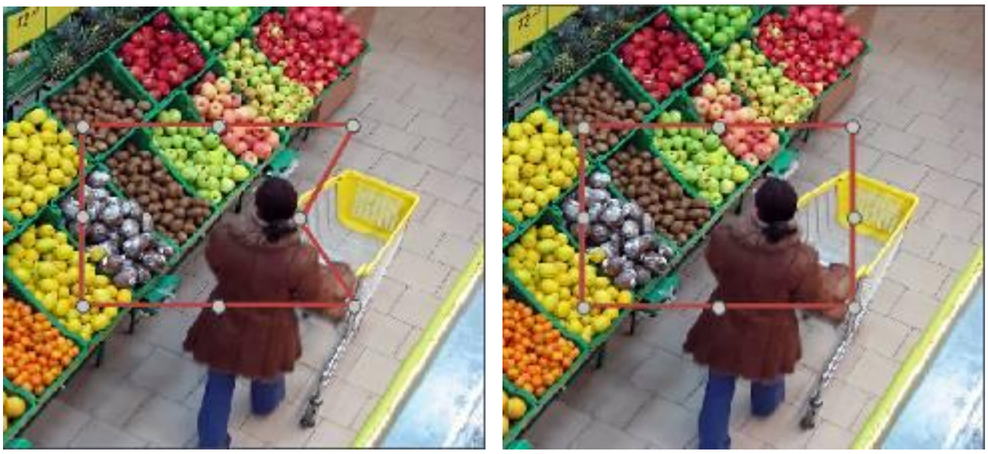
Intrusion Detection

Intrusion detection involves using the software to analyze the video feed and detect intrusion in specified areas. To configure:

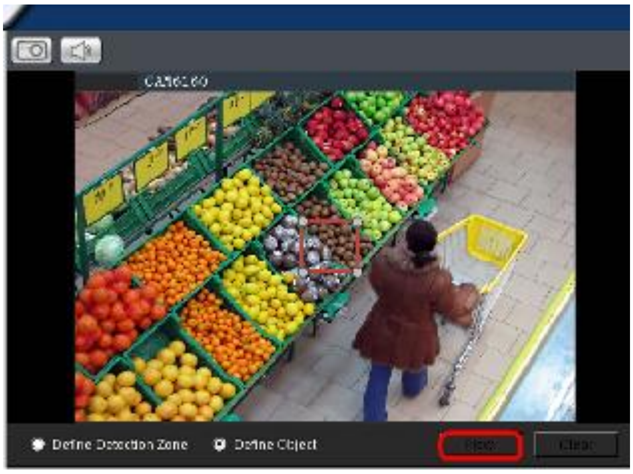
1. Select Intrusion Detection from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.



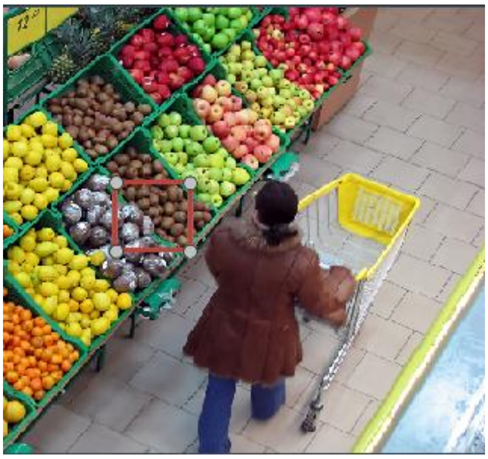
3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area of to be secured is covered.

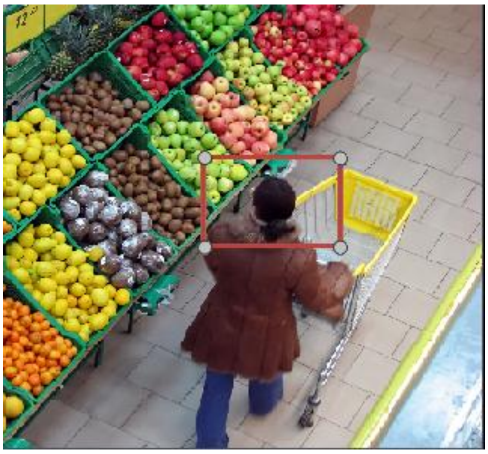


4. Select **Define Object** and click the **New** button to create an object box.



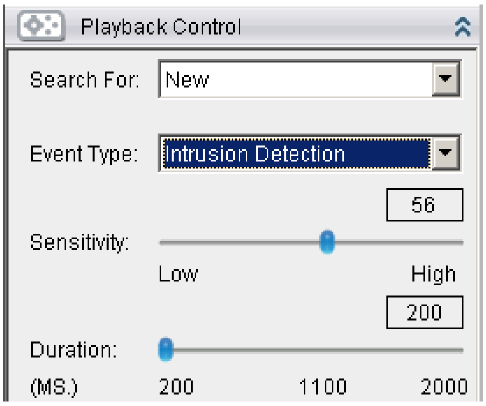
5. Click and drag the white dots along the window border to resize it and define the minimum size of objects that will be detected.





6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)

- **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
- **Duration (Msec) -** Adjusts how much time between each check of the window for intrusions.



Playback Control

Search For: New

Event Type: Intrusion Detection

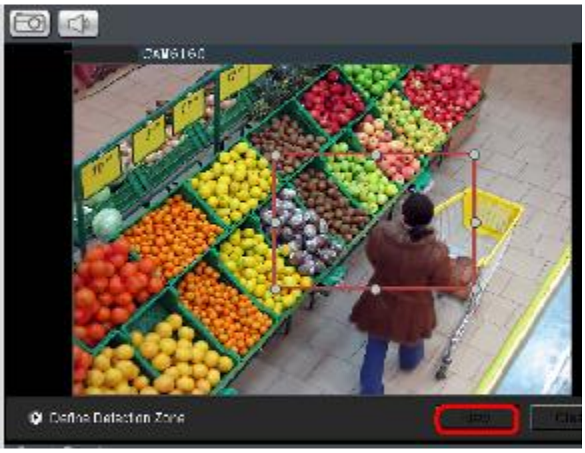
Sensitivity: 56

Duration: (MS.) 200

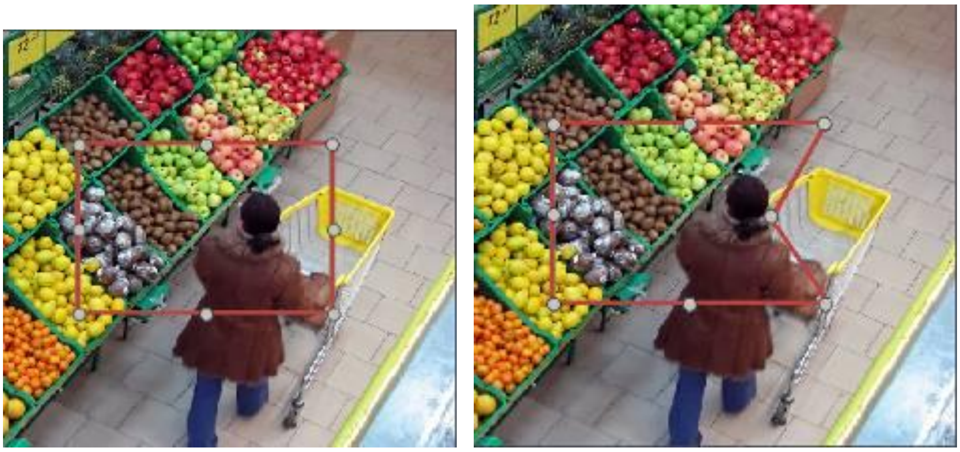
Missing Object Detection

Missing object detection involves using the software to analyze the video feed and detect missing objects larger than a certain size. To configure:

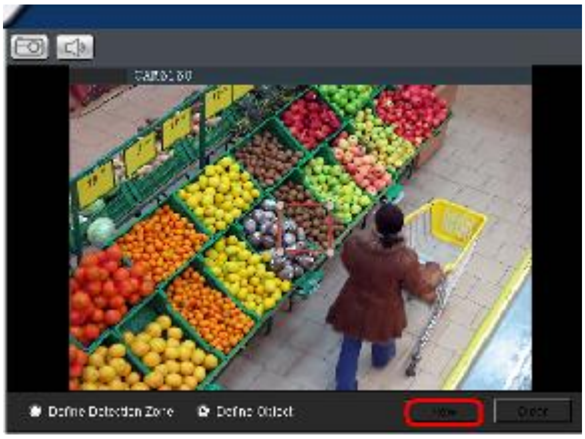
1. Select Missing Object Detection from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.



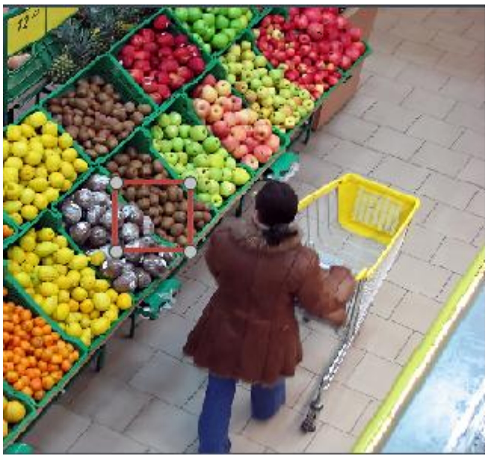
3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area to be secured is covered.

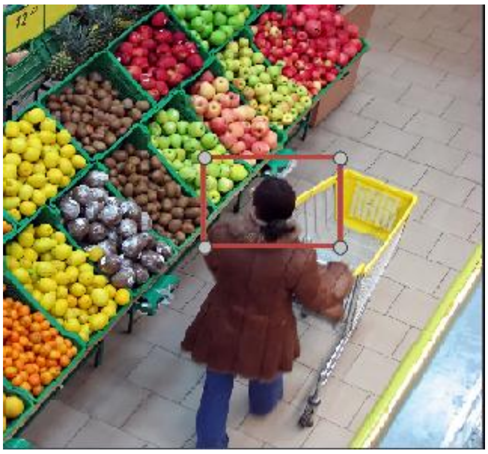


4. Select **Define Object** and click the **New** button to create an object box.



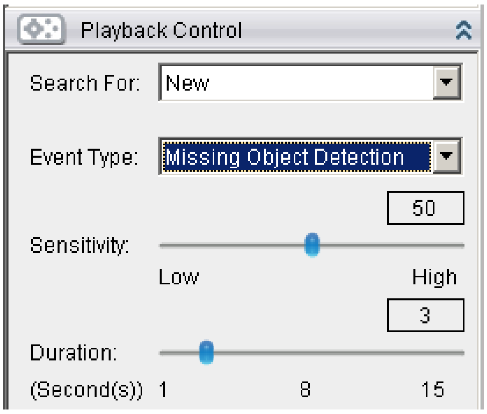
5. Click and drag the white dots along the window border to resize it and define the minimum size of the object(s) that will be secured.





6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)

- **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
- **Duration (Sec) -** Adjusts how much time an object is missing before an event is triggered.



Playback Control

Search For: New

Event Type: Missing Object Detection

Sensitivity: 50

Low High

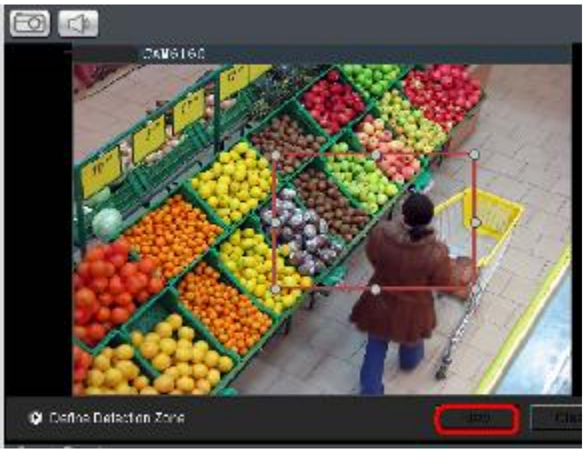
Duration: 3

(Second(s)) 1 8 15

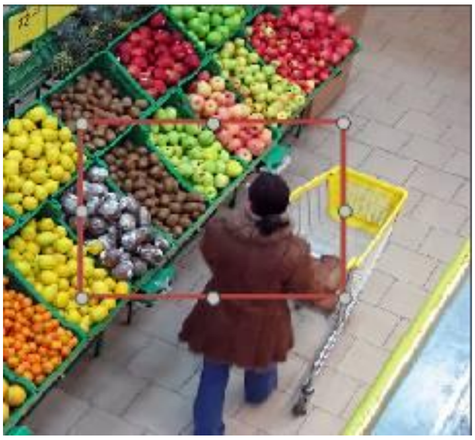
Foreign Object Detection

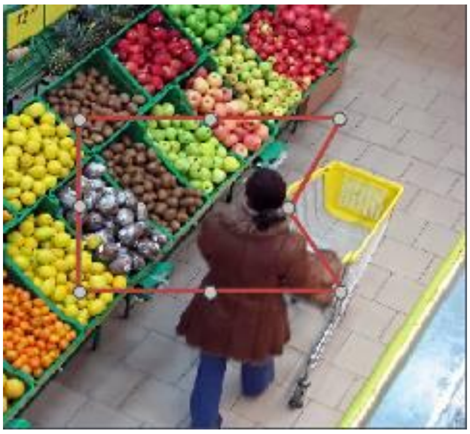
Foreign object detection involves using the software to analyze a video feed and detect objects that do not belong. To configure:

1. Select Foreign Object Detection from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.

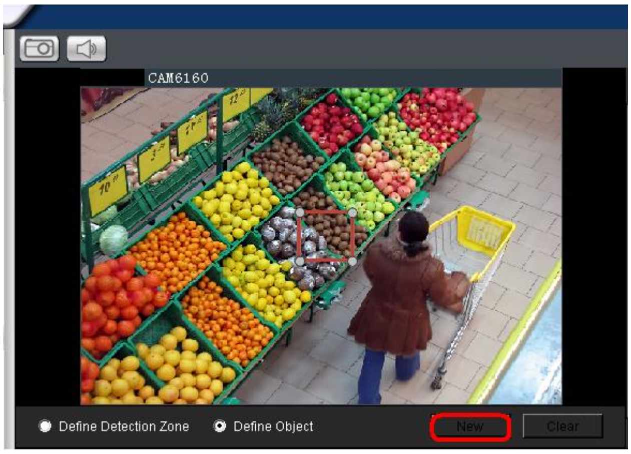


3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the area of detection is covered.

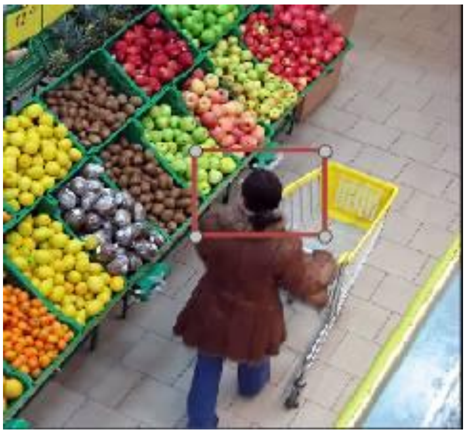


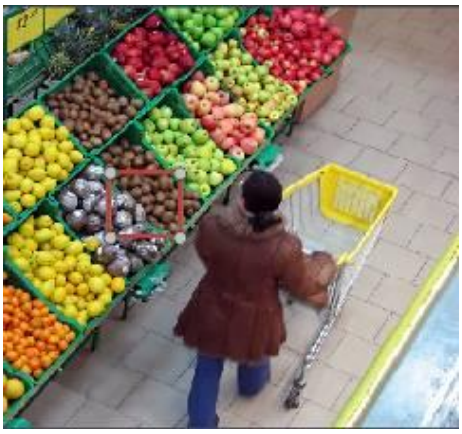


4. Select **Define Object** and click the **New** button to create an object box.



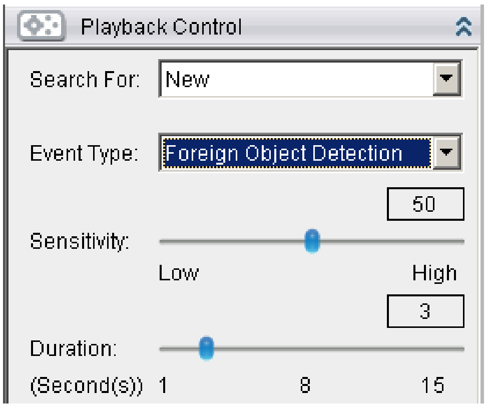
5. Click and drag the white dots along the window border to resize it and define the minimum size of foreign objects that will be detected.





6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)

- **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
- **Duration (Sec) -** Adjusts the amount of time before an object triggers an event.



Playback Control

Search For: New

Event Type: Foreign Object Detection

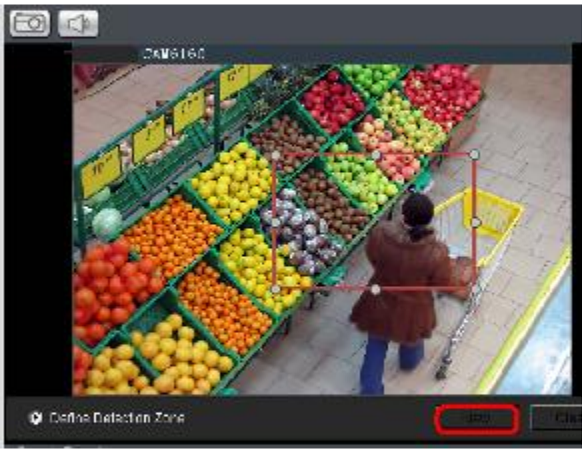
Sensitivity: 50

Duration: (Second(s)) 3

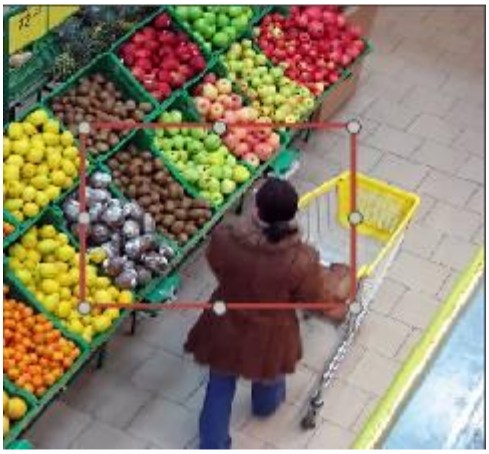
Forbidden Area Detection

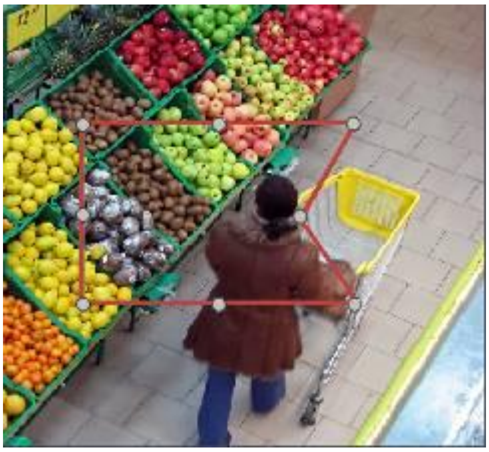
Forbidden area detection involves using the software to analyze the video feed and immediately detect any object in specified areas. To configure:

1. Select Forbidden Area Detection from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a red border.

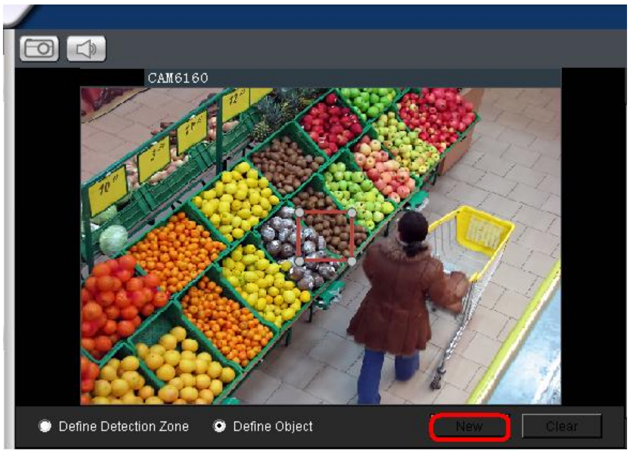


3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the forbidden area is covered.

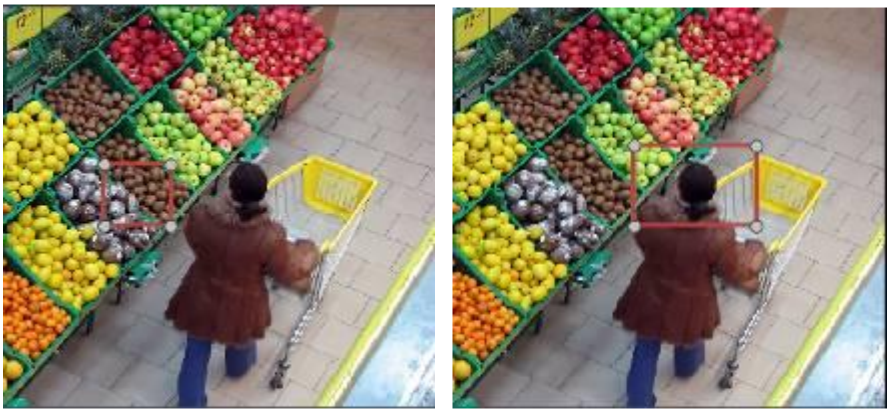




4. Select **Define Object** and click the **New** button to create an object box.

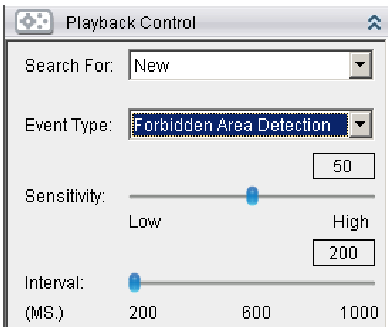


5. Click and drag the white dots along the window border to resize it and define the minimum size of objects that will be detected.



6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)

    - **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
    - **Interval** - Adjusts how much time between each check of the forbidden area.



Playback Control

Search For: New

Event Type: Forbidden Area Detection

Sensitivity: 50

Low High

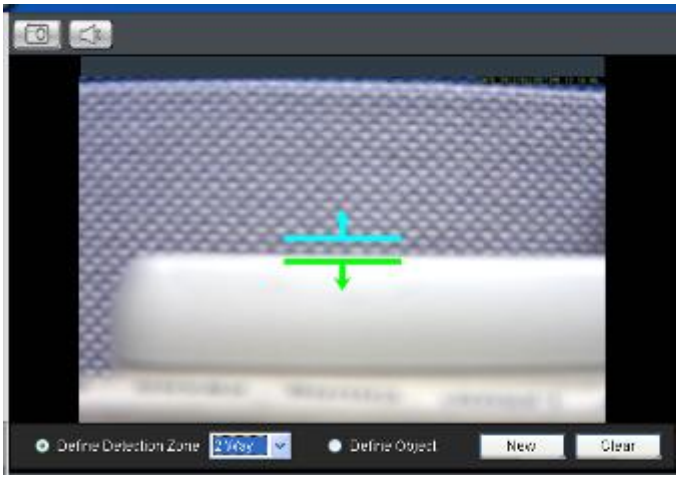
Interval: (MS.) 200

200 600 1000

Virtual Fence

Virtual fence involves using the software to create a fence-crossing detection of the demanding object. To configure:

1. Select Virtual Fence from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Up to 3 detection windows can be set for each camera. The current window will be highlighted with a one/two-way arrow (blue means "in", green means "out").



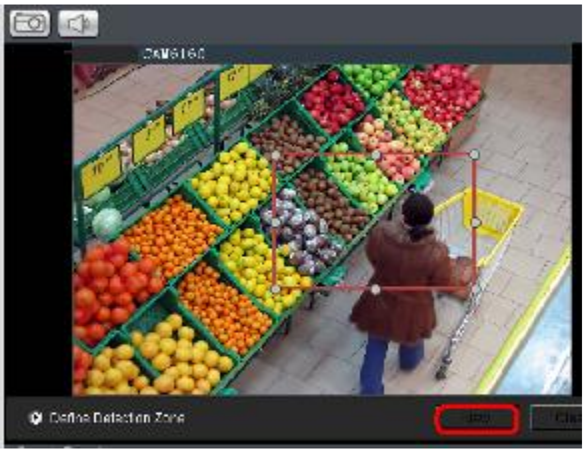
○ Define Detection Zone 2 Way ● Define Object

3. Click and drag the white arrows along the window border around the one/two-way arrow to resize the space between the fences/adjust the length of the fences.
4. Turn the window border with the orange arrow to change the directions of the fences.
5. Select **Define Object** and click the **New** button to create an object box.
6. Click and drag the white dots along the window border to resize it and define the minimum size of objects that will be detected.
7. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)
   - **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
   - **Duration (Sec)** – Adjusts how much time between each check for the fence-crossing.

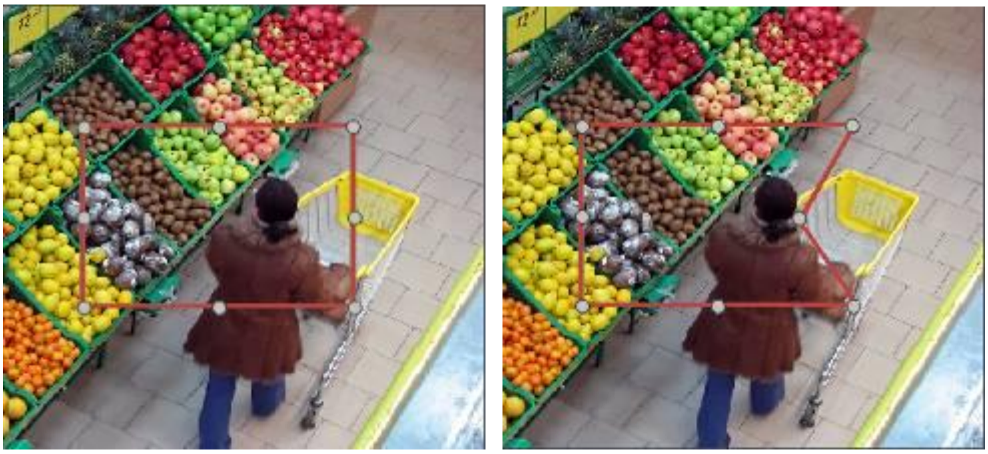
Going Out Detection

Going Out detection involves using the software to analyze the video feed and immediately detect any object in specified areas. To configure:

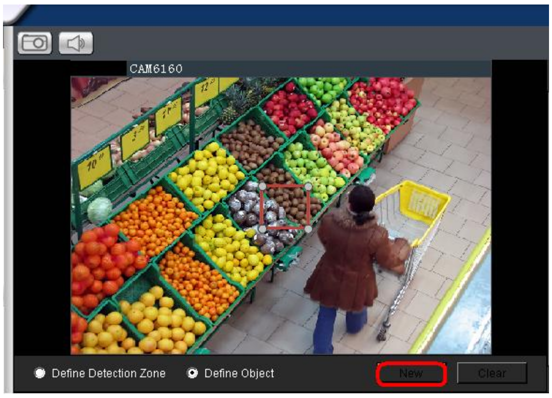
1. Select Going Out Detection from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Only 1 detection window can be set for each camera. The current window will be highlighted with a red border.



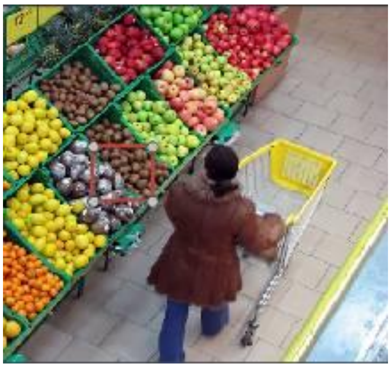
3. Click and drag the white dots along window border of a window to resize or reshape the window. Click the interior of windows and hold to drag to reposition them. Move and resize windows until the Going Out boundary is done.

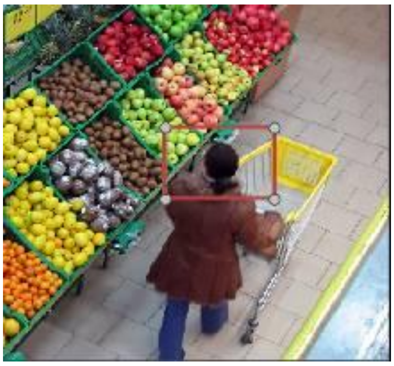


4. Select **Define Object** and click the **New** button to create an object box.



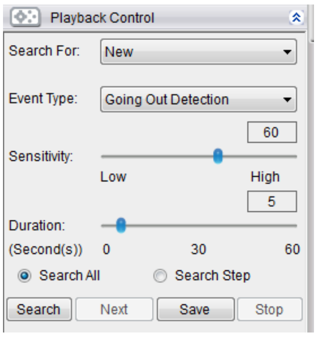
5. Click and drag the white dots along the window border to resize it and define the minimum size of objects that will be detected.





6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)

- **Sensitivity** - Adjusts window sensitivity from 0 (low) to 100 (high).
- **Interval** - Adjusts how much time between each check of the forbidden area.



Playback Control

Search For: New

Event Type: Going Out Detection

Sensitivity: 60 (Low – High)

Duration: (Second(s)) 5 (0 – 30 – 60)

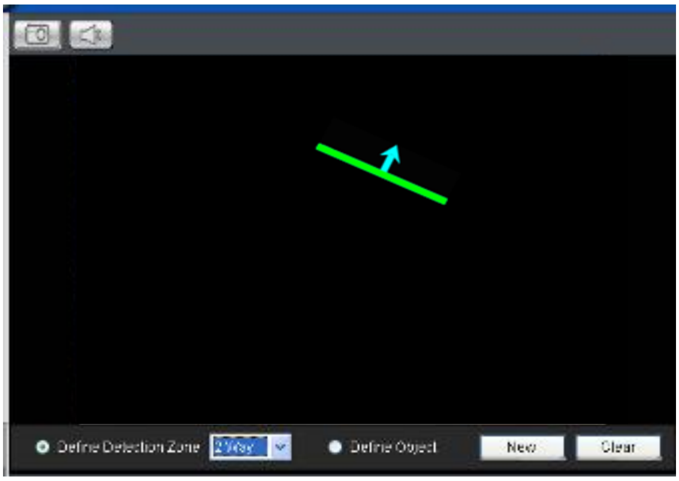
● Search All ○ Search Step

Search | Next | Save | Stop

Tailgating Detection

Tailgating Detection involves using the software to create a fence-crossing detection of the demanding object. To configure:

1. Select Tailgating Detection from the Event Type dropdown.
2. Select **Define Detection Zone** and click the **New** button to create a new window. Only 1 detection window can be set for each camera.



○ Define Detection Zone 2 Way ● Define Object

3. Click and drag the arrow to adjust the position and direction.
4. Select **Define Object** and click the **New** button to create an object box.
5. Click and drag the white dots along the window border to resize it and define the minimum size of objects that will be detected.
6. Adjust the sliders in the *Playback Control* section. (Settings will be applied to all existing windows)
    - **Sensitivity -** Adjusts window sensitivity from 0 (low) to 100 (high).
    - **Duration (Sec) -** Adjusts how much time between each check for the fence-crossing.

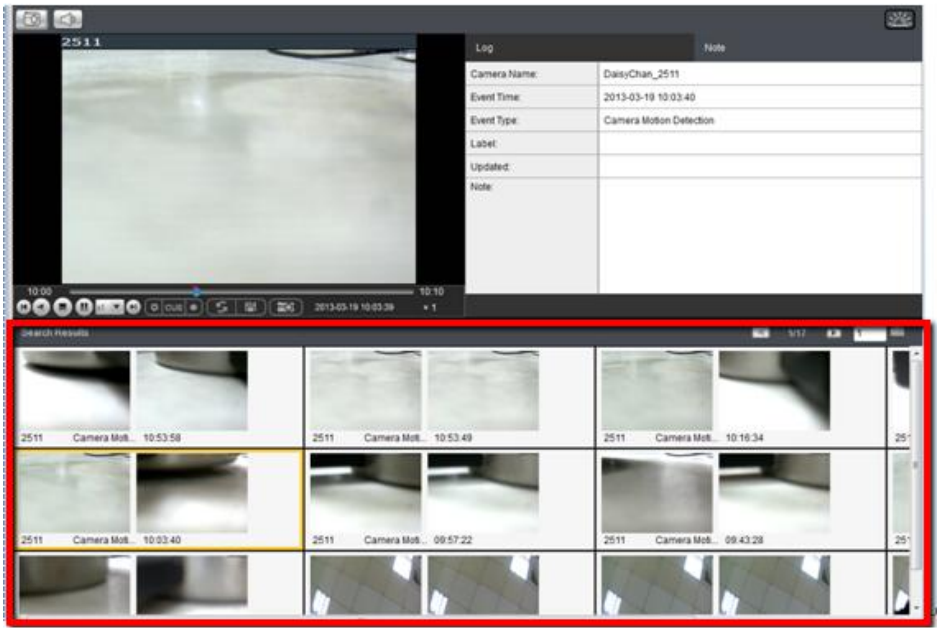
10.3.2. Saving/Retrieving a VI Search

Once the VI search is setup, you may save it by clicking the **Save** button. The system will prompt you for a name. Saved VI searches can also be retrieved using the **Search for** dropdown, or by clicking the **Next** button.

10.3.3. Using the Search Results

Selecting the Result

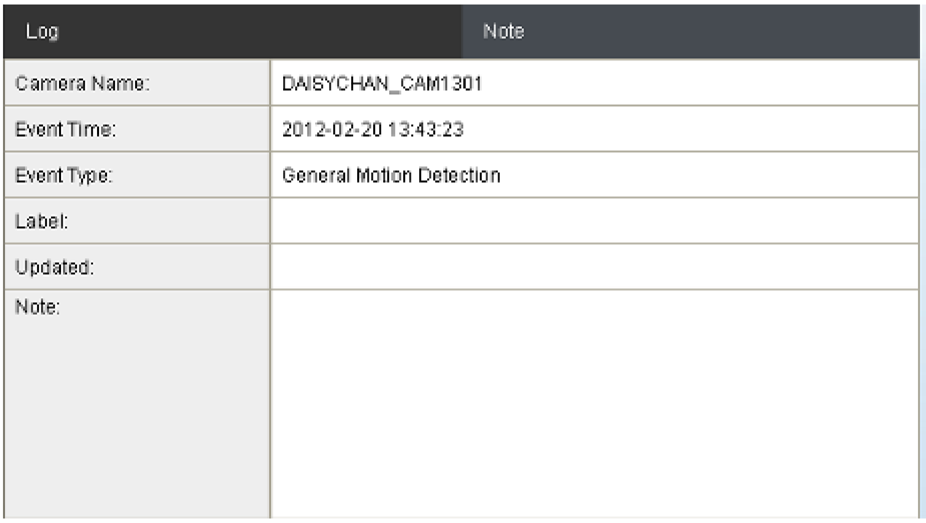
Search result thumbnail(s) will be displayed in the results box.



Log	Note
Camera Name:	DaisyChan_2511
Event Time:	2013-03-19 10:03:40
Event Type:	Camera Motion Detection
Label:	
Updated:	
Note:	

2511
10:00
10:10
2013-03-19 10:03:39
Search Results
1/17
2511 Camera Moti... 10:53:58
2511 Camera Moti... 10:53:49
2511 Camera Moti... 10:16:34
2511 Camera Moti... 10:03:40
2511 Camera Moti... 09:57:22
2511 Camera Moti... 09:43:28

Clicking the thumbnail will select the detection instance. The following information fields are available for each instance:

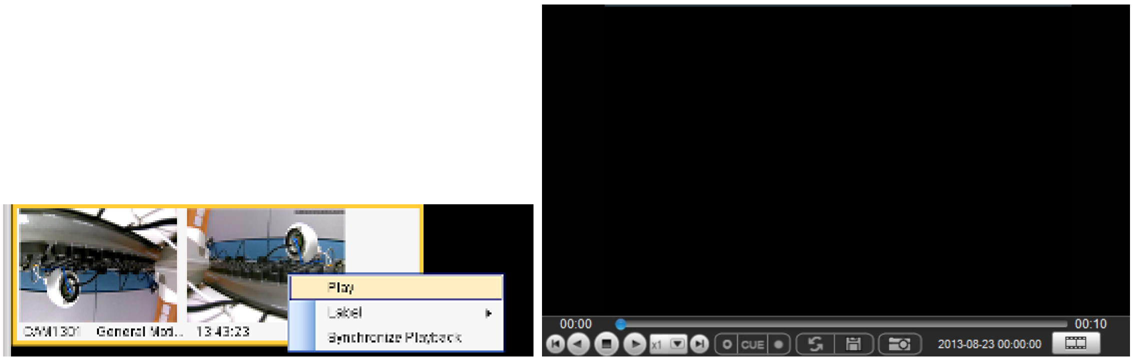


Log	Note
Camera Name:	DAISYCHAN_CAM1301
Event Time:	2012-02-20 13:43:23
Event Type:	General Motion Detection
Label:	
Updated:	
Note:	

- **Camera Name** - The camera used to capture the video.
- **Event Time** - The time the event occurred.
- **Event Type** - The type of VI detection that the event triggered.
- **Label** - A user-defined label (optional).
- **Updated -** The last time the event was updated.
- **Note -** A simple comment or note for the clip.

Result Playback

Once a result is selected by clicking on it, playback can be started by double clicking on the thumbnail. Alternatively, you may right-click the thumbnail and click **Play**. A ten minute clip containing the event will begin playing, with the start time synchronized with the start of the event.



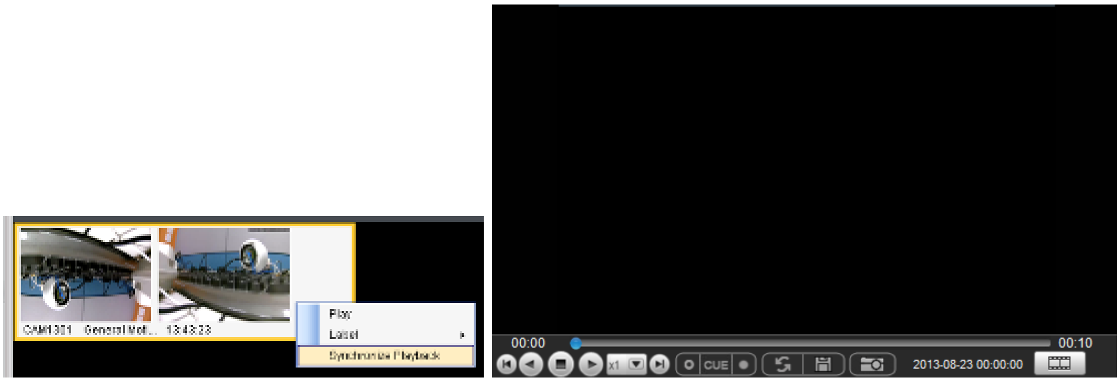
The following functions are available for playback:

▶	Starts video playback.
◀	Reverses video playback.
■	Stops video playback.
▶|	Jumps to the next segment.
|◀	Jumps to the previous segment.
CUE	Clears the cue-in and cue-out markers.
○	Set Cue-In marker for clip start
●	Set Cue-Out marker for clip end
↻	Loop, continuous playback within Cue-In & Cue-Out

⟲	Enable / Disenable loop. Loop to continuous playback within Cue-In & Cue-Out.
💾	Saves video clips/Exports selected clips.
📷	Snapshot
🎞	Real time mode
▮	Frame by frame mode
★	Just key frame mode

Playback Synchronization

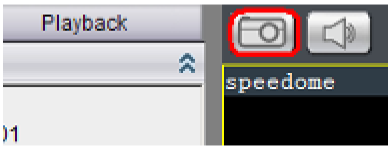
Search results can be sent to the time-based playback window for comparison with other video streams using the **Synchronize Playback** function. This action will send the 10 minute segment containing the detected event to the time-based playback window.



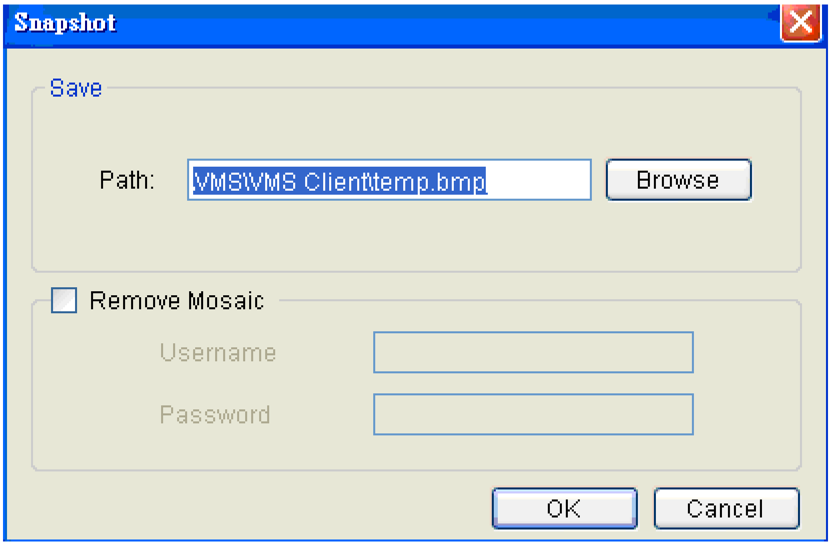
Capturing Screenshot

To capture a screenshot:

1. Click the **Capture** button located in the button area.



2. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.



Snapshot

Save

Path: VMS\VMS Client\temp.bmp

Browse

□ Remove Mosaic

Username

Password

OK

Cancel

3. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.

4. Click **OK** to save the screenshot.

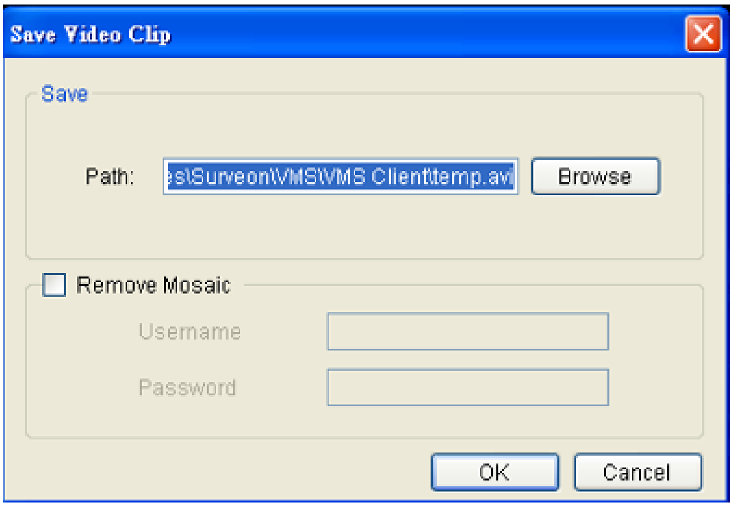
Capturing Video Clip

To capture a video segment:

1. Click the **Cue In** button, and place the marker at the start of the segment to be captured.

2. Click the **Cue Out** button, and place the marker at the end of the segment to be captured.

3. Click the **Save Video Clip** button located in the control area beside the **Cue In** and **Cue Out** buttons. A system popup will open prompting for a filename and location for the video clip.



Save Video Clip

Save

Path: s\Surveon\VMS\VMS Client\temp.avi

Browse

□ Remove Mosaic

Username

Password

OK

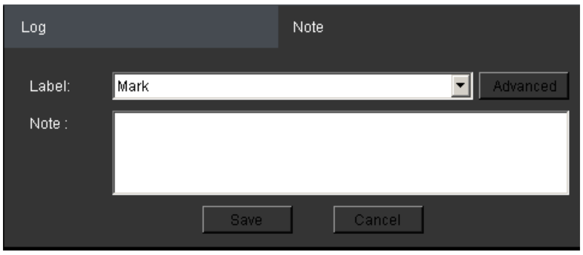
Cancel

4. **(Optional)** Change the filename and file path. If you do not change the file details, the default save location for the video clip will be your installation path.

5. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.

Logging and Noting

Clicking the **Note** tab beside the log entry will let you tag and note the search result for future references.



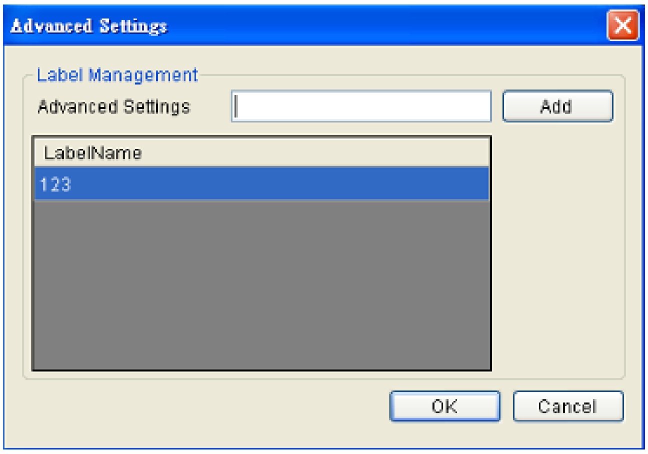
You may choose one of the following:

- **Label -** Select one of the defined labels.
- **Note -** A short description for the video clip.

Label Setup

Clicking **Advanced** from the note context will bring up the label setup menu.

To add a label:



1. Enter a name in the Advanced Settings field.
2. Click **Add**. The new label will appear in the LabelName table. Future clips may be tagged with this label.

10.4. Event Search

An event search involves searching for multiple tagged events over one more cameras. To access Event search, click the **Event Search** tab in the *Playback* context.

10.4.1. Creating an Event Search

Time Selection

There are two types of time selections that can be made: Recent Time and Specified Time.

Recent Time

To perform a recent time search, click the **Recent** option in the time selection box. Choose one of the simple time choices to perform playback/search from that time period.

Specified Time

A specified time search can be selected by choosing the **Specify Time** option from the time selection box, and involves defining a time and date for the playback/search.

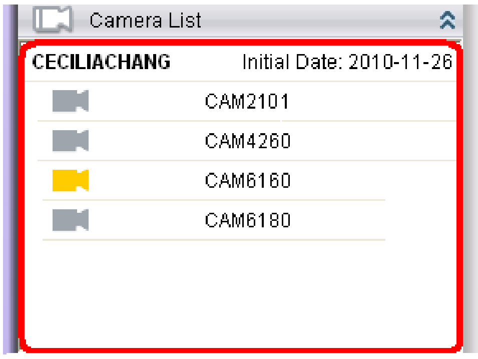
Using the calendar select a date for search/playback. For an event search, multiple dates can be selected by clicking on the calendar and dragging the cursor to select multiple dates. Multiple areas can be selected by pressing the **control** key and selecting additional dates.

Once a date or dates are selected, clicking on the boxes will allow you to specify a specific period to search/playback in 10 minute increments.

Camera Selection

Once the search time range has been specified, a list of cameras with video recorded during the period specified will appear in the *Camera List*.

Select a camera to perform the event search on by clicking its entry. Multiple cameras can be selected for the search.



CECILIACHANG Initial Date: 2010-11-26

CAM2101

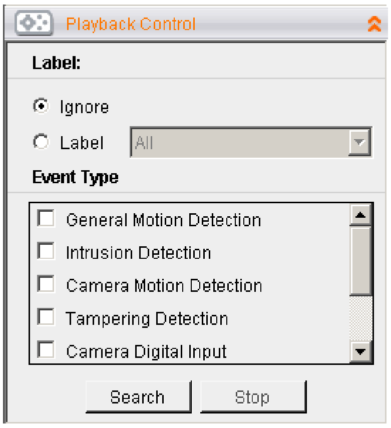
CAM4260

CAM6160

CAM6180

Setting Event Search Criteria

1. Choose an **Event Type** and/or a **Label** to search for. Selecting **Ignore** will search for all labels.



Label:

● Ignore

○ Label All

Event Type

□ General Motion Detection

□ Intrusion Detection

□ Camera Motion Detection

□ Tampering Detection

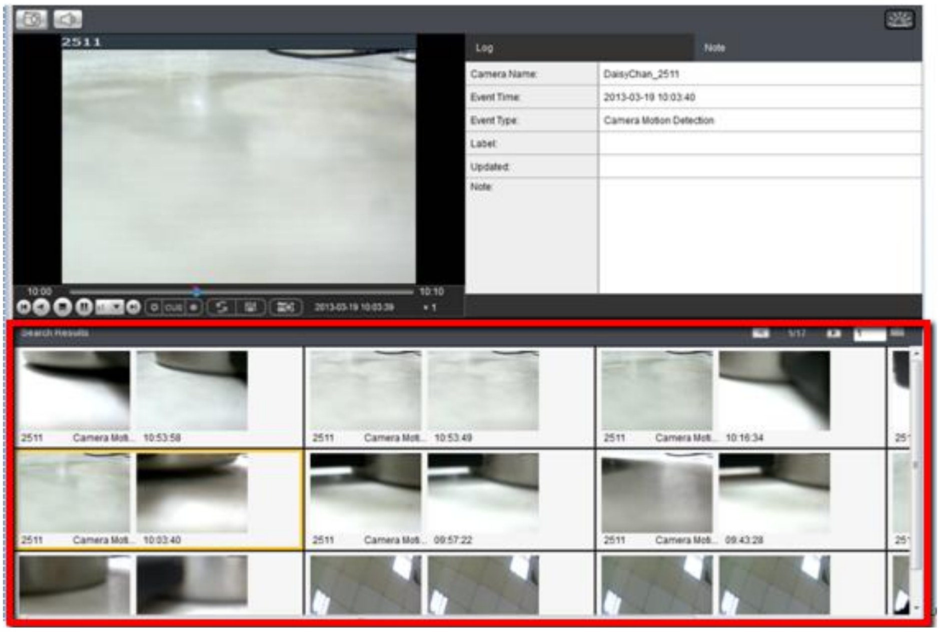
□ Camera Digital Input

2. Click **Search** to begin the search. Results will display in the *Search Results* panel.

10.4.2. Using the Search Results

Selecting the Result

Search result thumbnail(s) will be displayed in the results box.

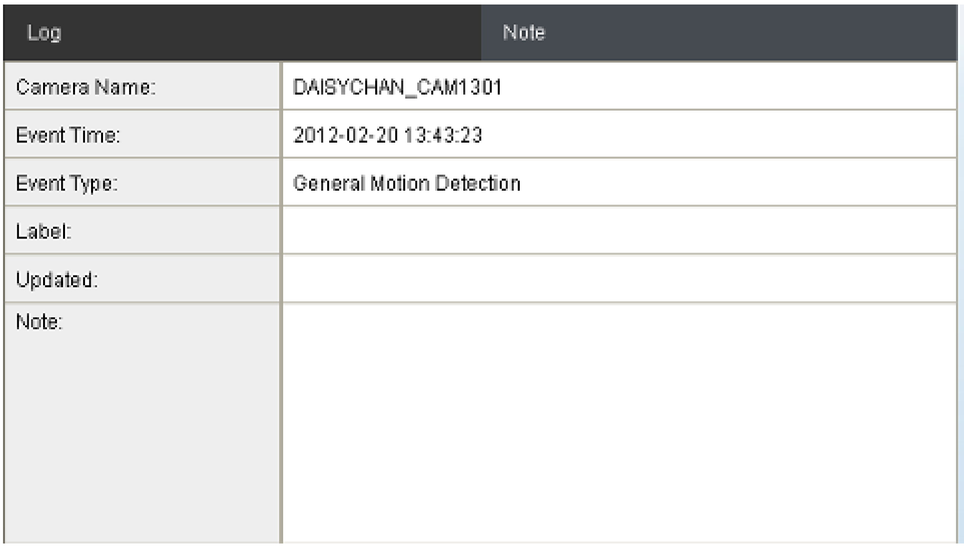


Log	Note
Camera Name:	DaisyChan_2511
Event Time:	2013-03-19 10:03:40
Event Type:	Camera Motion Detection
Label:	
Updated:	
Note:	

2511
10:00
10:10
2013-03-19 10:03:39
Search Results
2511 Camera Moti... 10:53:58
2511 Camera Moti... 10:53:49
2511 Camera Moti... 10:16:34
2511 Camera Moti... 10:03:40
2511 Camera Moti... 09:57:22
2511 Camera Moti... 09:43:28

Clicking the thumbnail will select the detection instance.

The following information fields are available for each instance:



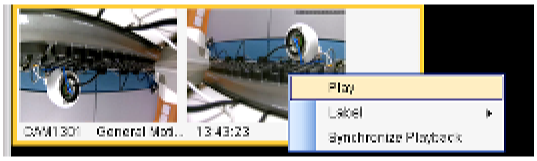
Log	Note
Camera Name:	DAISYCHAN_CAM1301
Event Time:	2012-02-20 13:43:23
Event Type:	General Motion Detection
Label:	
Updated:	
Note:	

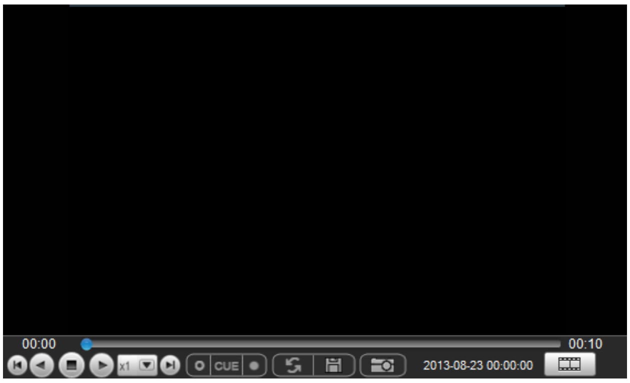
- **Camera Name** - The camera used to capture the video.
- **Event Time** - The time the event occurred.
- **Event Type** - The type of VI detection (if any) that the event triggered (optional).
- **Label** - A user-defined label (optional).

- **Updated -** The last time the event was updated.
- **Note -** A simple comment or note for the clip.

Result Playback

Once a result is selected by clicking on it, playback can be started by double clicking on the thumbnail. Alternatively, you may right-click the thumbnail and click **Play**. A ten minute clip containing the event will begin playing, with the start time synchronized with the start of the event.





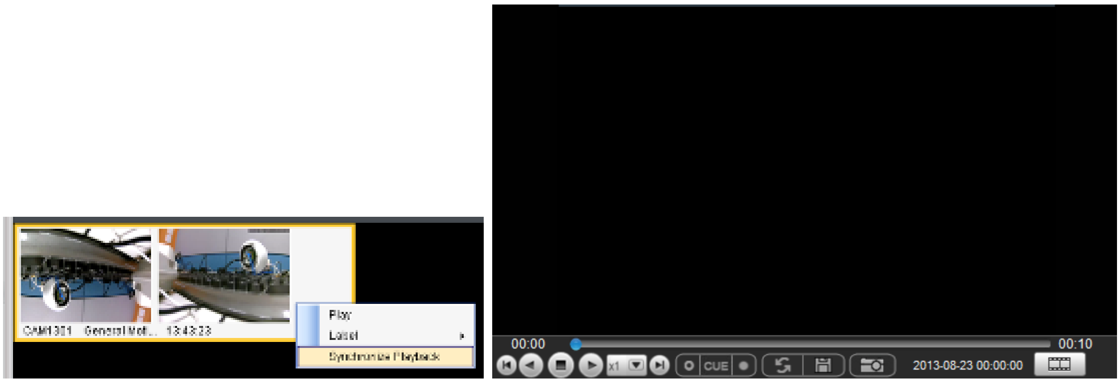
The following functions are available for playback:

▶	Starts video playback.
◀	Reverses video playback.
■	Stops video playback.
▶|	Jumps to the next segment.
|◀	Jumps to the previous segment.
CUE	Clears the cue-in and cue-out markers.
○	Set Cue-In marker for clip start
●	Set Cue-Out marker for clip end
↻	Loop, continuous playback within Cue-In & Cue-Out
⟲	Enable / Disenable loop. Loop to continuous playback within Cue-In & Cue-Out.

💾	Saves video clips/Exports selected clips.
📷	Snapshot
🎞	Real time mode
■	Frame by frame mode
★	Just key frame mode

Playback Synchronization

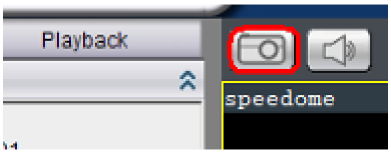
Search results can be sent to the time-based playback window for comparison with other video streams using the **Synchronize Playback** function. This action will send the 10 minute segment containing the detected event to the time-based playback window.



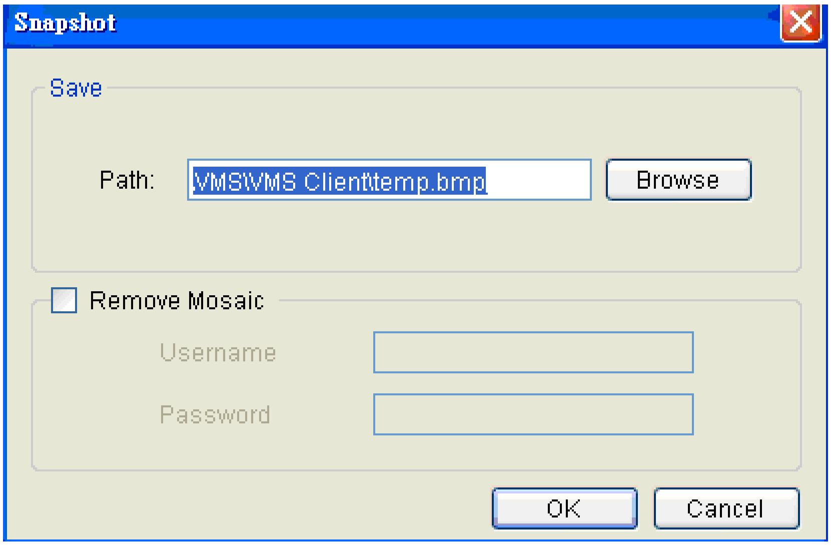
Capturing Screenshot

To capture a screenshot:

1. Click the **Capture** button located in the button area.



2. In the **Path** field enter a file path and filename for the screenshot. Alternately, you may also click **Browse** and select a file path.



Path: VMS\VMS Client\temp.bmp

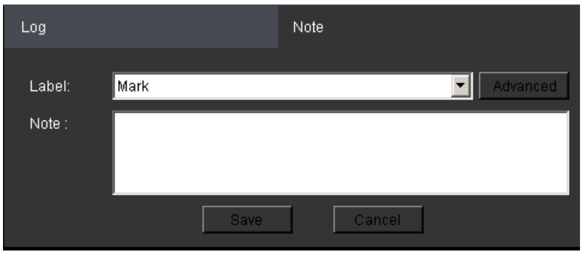
☐ Remove Mosaic

3. **(Optional)** You may click **Remove Mosaic** and enter a valid **Username** and **Password** to remove any privacy-mask mosaicing.

4. Click **OK** to save the screenshot.

Logging and Noting

Clicking the **Note** tab beside the log entry will let you tag and note the search result for future references.



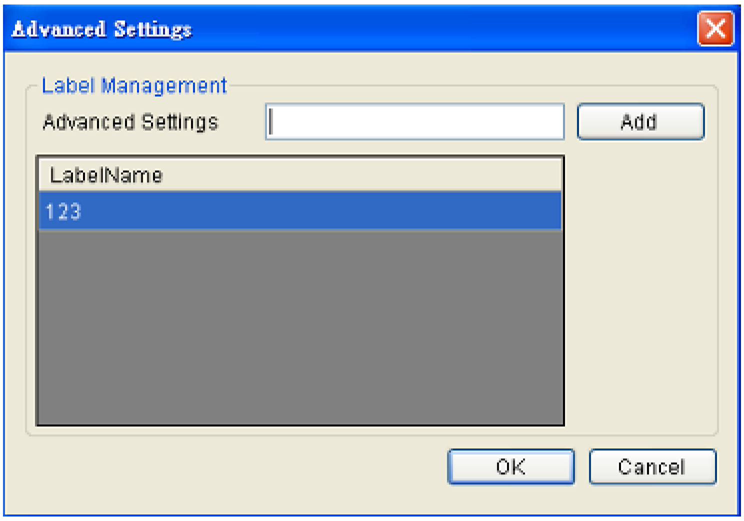
Label: Mark

You may choose one of the following:

- **Label** - Select one of the defined labels.
- **Note** - A short description for the video clip.

Label Setup

Clicking **Advanced** from the note context will bring up the label setup menu.



Advanced Settings

LabelName
123

To add a label:

1. Enter a name in the Advanced Settings field.

2. Click **Add**. The new label will appear in the LabelName table. Future clips may be tagged with this label.

Chapter 12. Remote Web Client and SPhone Client for Simple Use (Optional)

For remote users, there are 3 methods for viewing.

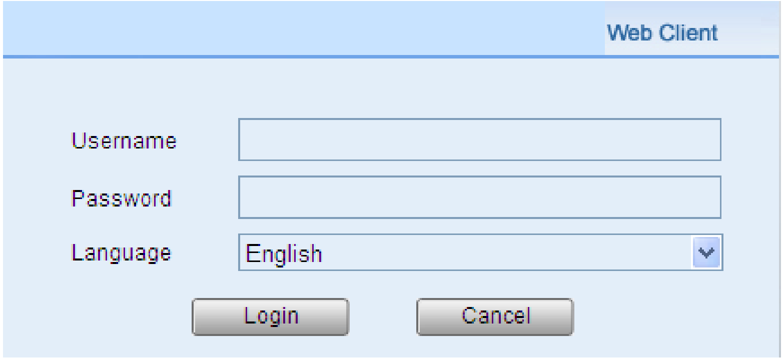
1. Remote Client: install Remote Client on remote PCs for live view and playback.
2. Web Client: use the browser IE (Internet Explorer) and input the IP address of the camera for live view and playback.
3. Mobile Client: install the **Sphone Client** app on iOS or Android mobile devices for basic live viewing.

12.1. Starting the Web Client

Launch Microsoft Internet Explorer 7.0 (or above) and enter your **VMS Server IP address + "/webclient"** in your web browser's URL location, e.g. http://172.18.6.9/webclient to download the Web Client application.

Note: Please check the web server settings in the VMS console first.

After the Web Client installation is done, a login window will pop up.



Username

Password

Language: English

- **Username** - The username for the domain. **Default username is *admin*.**
- **Password** - The password for the domain. **Default password is *admin*.**
- **Language** -Options for the interface languages.

Click **Login** after the username and password are entered.

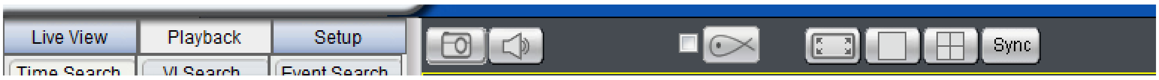
After logging in, the live view page will be displayed on the web browser.

12.1.1. Checking the Software Version

Users can see the software version at the lower left corner of the window after logging in.

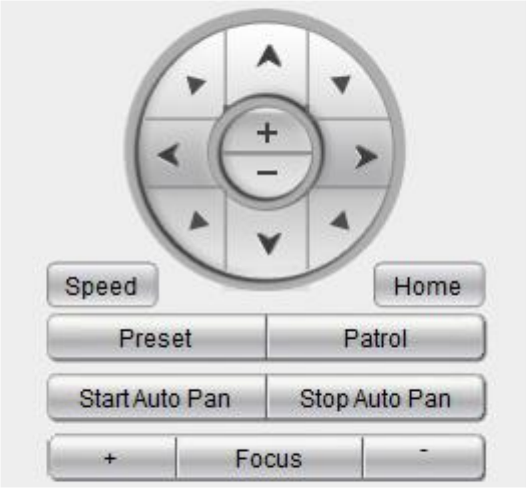
12.1.2. Use of 1x/4x views

Users have the option of viewing up to 4 recorded video streams at once, or just one stream at a time. Either of these options can be chosen by clicking on corresponding button in the button area above the main view screen. In both cases functionality and operation is the same.

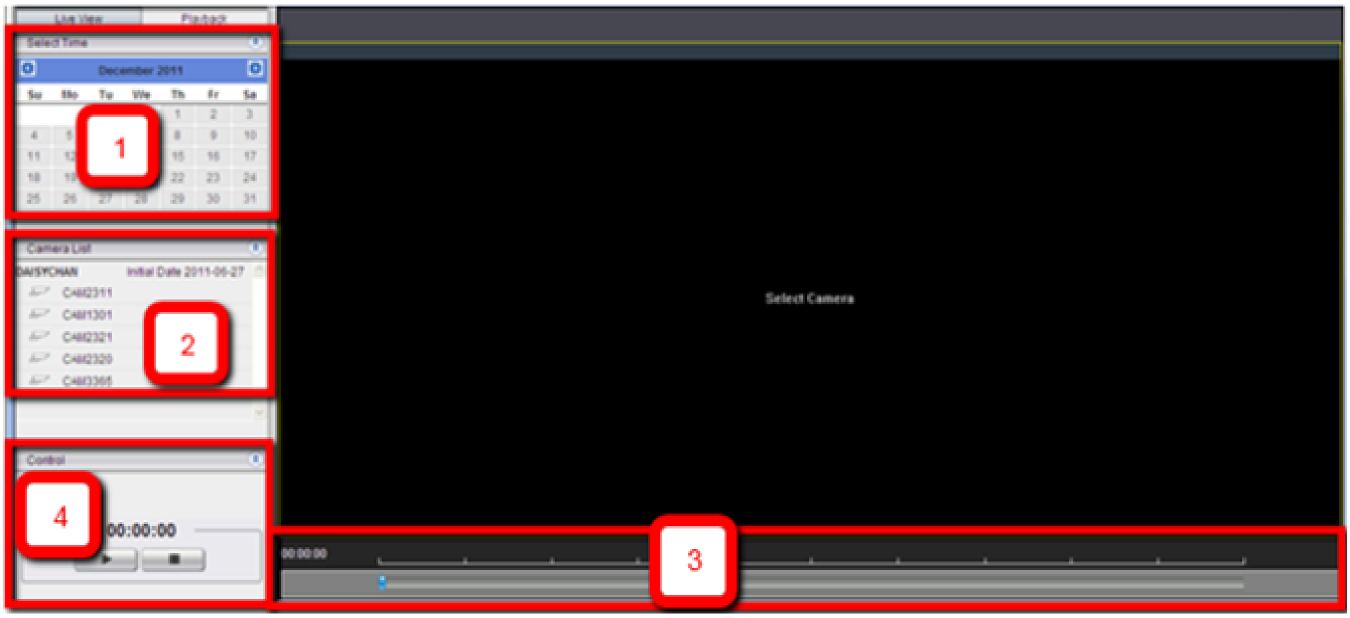


12.1.3. PTZ Control

Cameras equipped with Pan-Tilt-Zoom functionality can be controlled directly within the Web Client. These controls can be found in the *PTZ Control* window within the live view screen.



12.1.4. Playback Settings



Users can select the (1) time and (2) camera, and then use the (3) time line and (4) playback control panel to do the playback.

Note: For more details of PTZ Control and Playback Control, please refer to PTZ Control and Playback sections in this chapter.

12.2. Installing and Starting the SPhone Client on iOS Devices

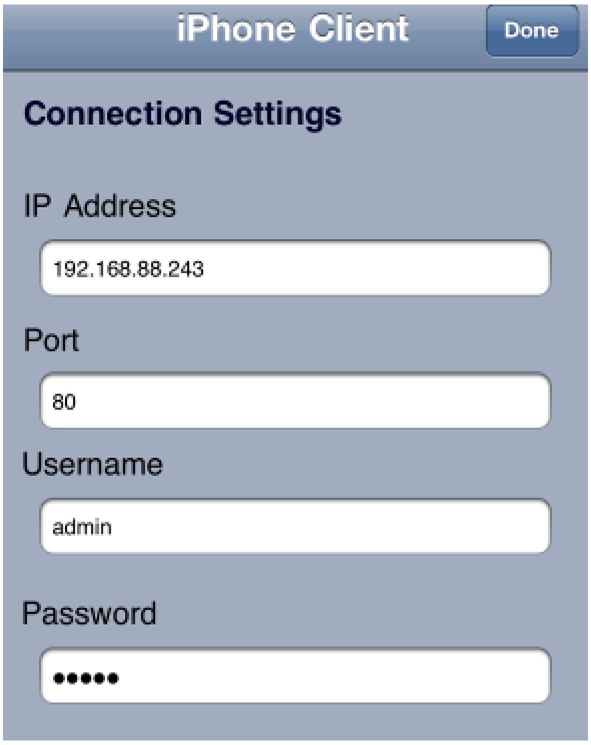
12.2.1. Installing the SPhone Client (Optional)

Download the SPhone Client from App Store on the iPhone desktop.

12.2.2. Starting the SPhone Client

Note: Please check the web server settings in the VMS console first.

After the SPhone Client installation is done, a login window will pop up.



Connection Settings

IP Address: 192.168.88.243

Port: 80

Username: admin

Password: ●●●●●

- **IP Address**: The IP address for the VMS/NVR Server.
- **Port:** The login port for SPhone Client. **Default port number is *80*.**

Note: The port number should be the same with the web server port.

- **Username** – The username for the domain. **Default username is *admin*.**
- **Password** – The password for the domain. **Default password is *admin*.**

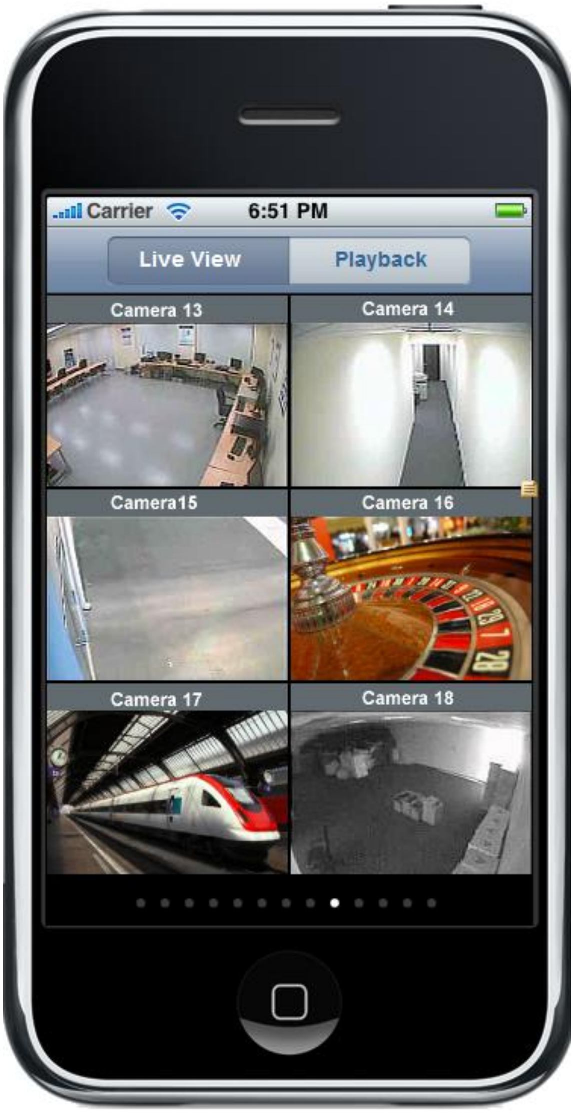
Click **Done** button on the upper right corner after the port, username and password are entered.

12.2.3. Checking the Software Version

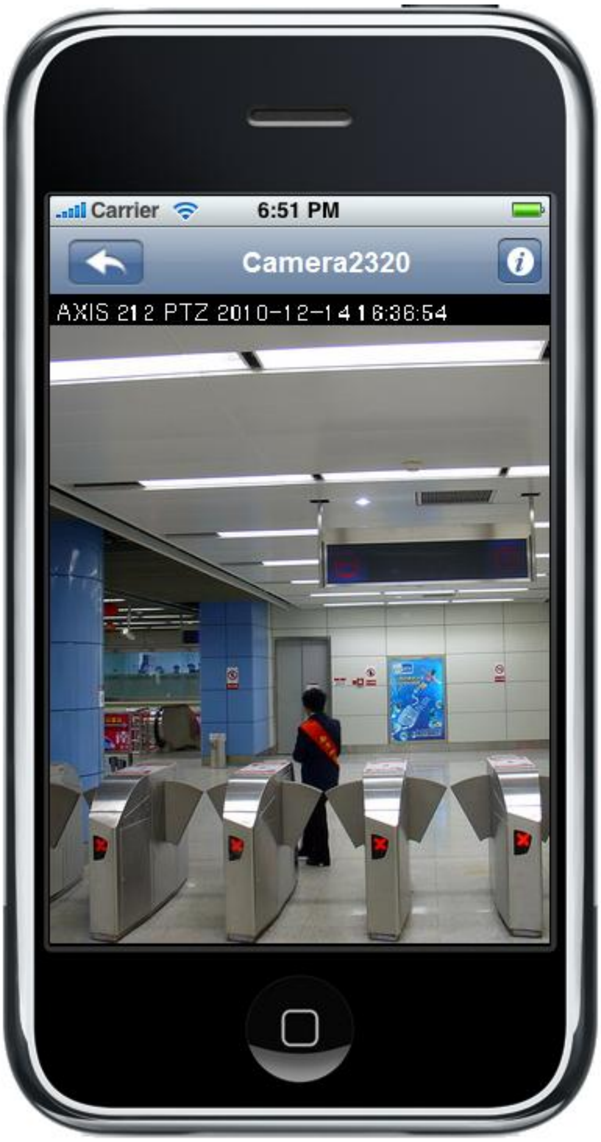
Users can see the software version at the lower right corner of the window after logging in..

12.2.4. Live View/Playback on the SPhone Client

You can use live view and playback functionalities through SPhone Client:

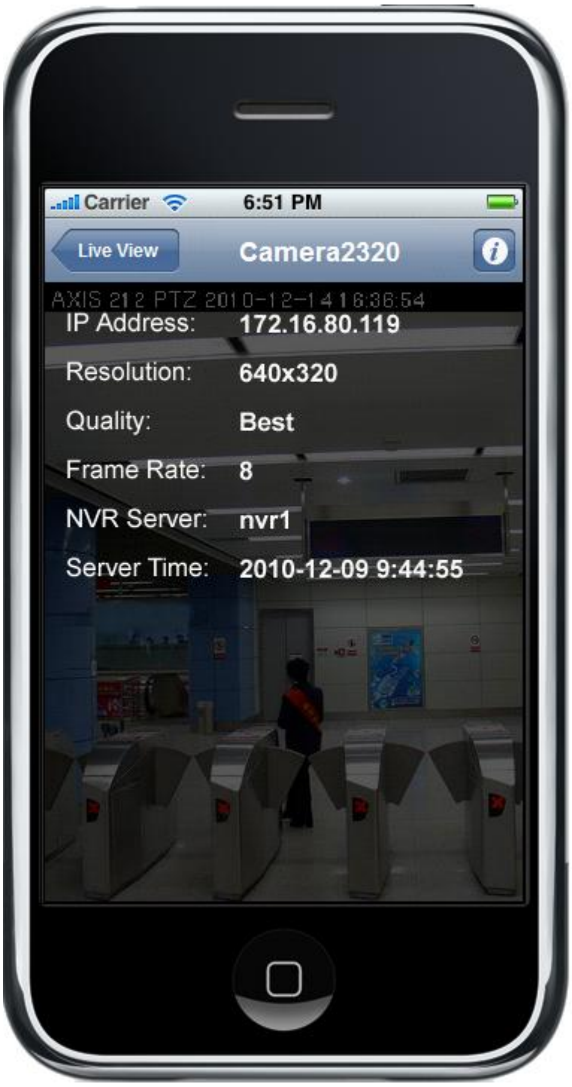


At most 6-channel live view can be displayed in the same page.



Press the ↶ icon at the upper left to jump to the previous page or press the ▢ button on the phone to go to the next page.

The i icon beside each camera name can be used to check the detailed information of each camera as follows.



IP Address: 172.16.80.119

Resolution: 640x320

Quality: Best

Frame Rate: 8

NVR Server: nvr1

Server Time: 2010-12-09 9:44:55

- **IP Address:** The IP address for the VMS/SMR Server
- **Resolution:** The video resolution of the camera
- **Quality:** The video quality of the camera
- **Frame Rate :** The frame rate of the camera
- **NVR Server:** The VMS/SMR Server name
- **Server Time**

12.3. Installing and Starting the SPhone Client on Android Devices

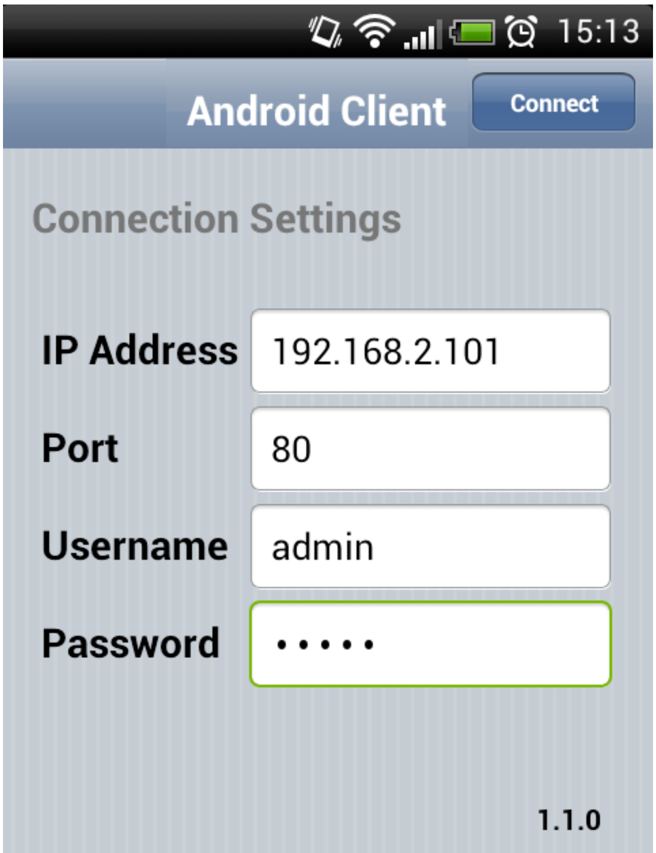
12.3.1. Installing the SPhone Client (Optional)

Download the SPhone Client from App Store on the Android phone desktop.

12.3.2. Starting the SPhone Client

Note: Please check the web server settings in the VMS console first.

After the SPhone Client installation is done, a login window will pop up.



Connection Settings

IP Address 192.168.2.101

Port 80

Username admin

Password •••••

1.1.0

- **IP Address**: The IP address for the VMS/NVR Server.
- **Port:** The login port for SPhone Client. **Default port number is *80*.**

Note: The port number should be the same with the web server port.

- **Username** – The username for the domain. **Default username is *admin*.**
- **Password** – The password for the domain. **Default password is *admin*.**

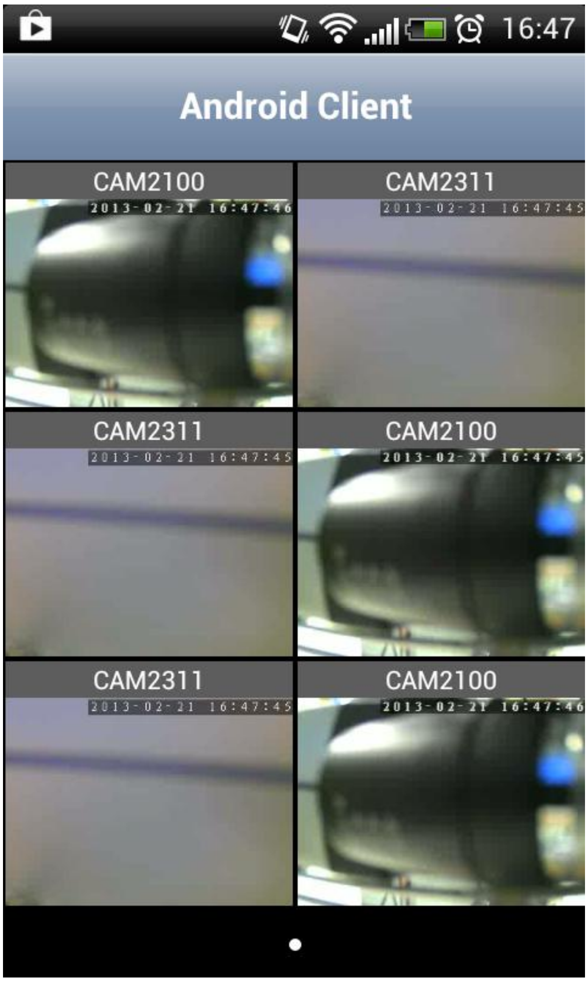
Click **Done** button on the upper right corner after the port, username and password are entered.

12.3.3. Checking the Software Version

Users can see the software version at the lower right corner of the window after logging in.

12.3.4. Live View on the SPhone Client

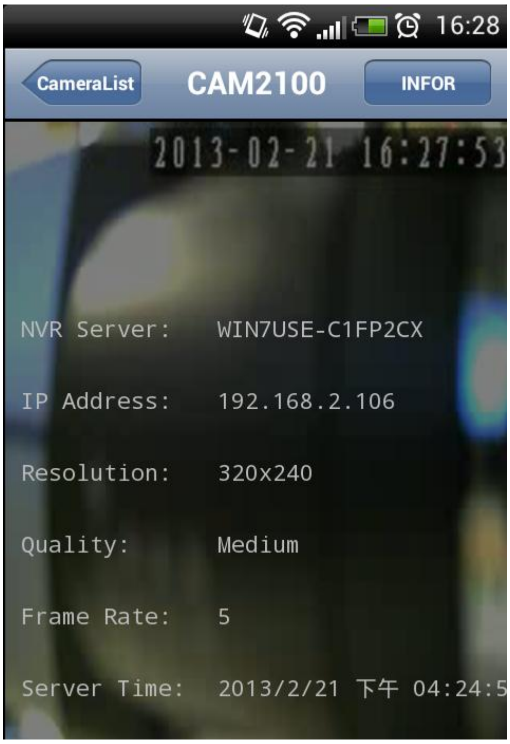
You can use basic live view functionalities through SPhone Client:



At most 6-channel live view can be displayed in the same page.

Press the ▶ icon at the upper left to jump to the previous page or press the ⊡ button on the phone to go to the next page.

The INFOR icon beside each camera name can be used to check the detailed information of each camera as follows.



NVR Server: WIN7USE-C1FP2CX

IP Address: 192.168.2.106

Resolution: 320x240

Quality: Medium

Frame Rate: 5

Server Time: 2013/2/21 下午 04:24:5

- **NVR Server:** The VMS/SMR Server name
- **IP Address:** The IP address for the VMS/SMR Server
- **Resolution:** The video resolution of the camera
- **Quality:** The video quality of the camera
- **Frame Rate :** The frame rate of the camera
- **Server Time**

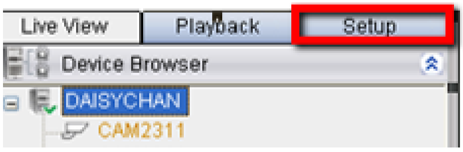
Chapter 13. System Setup

13.1. Home Page

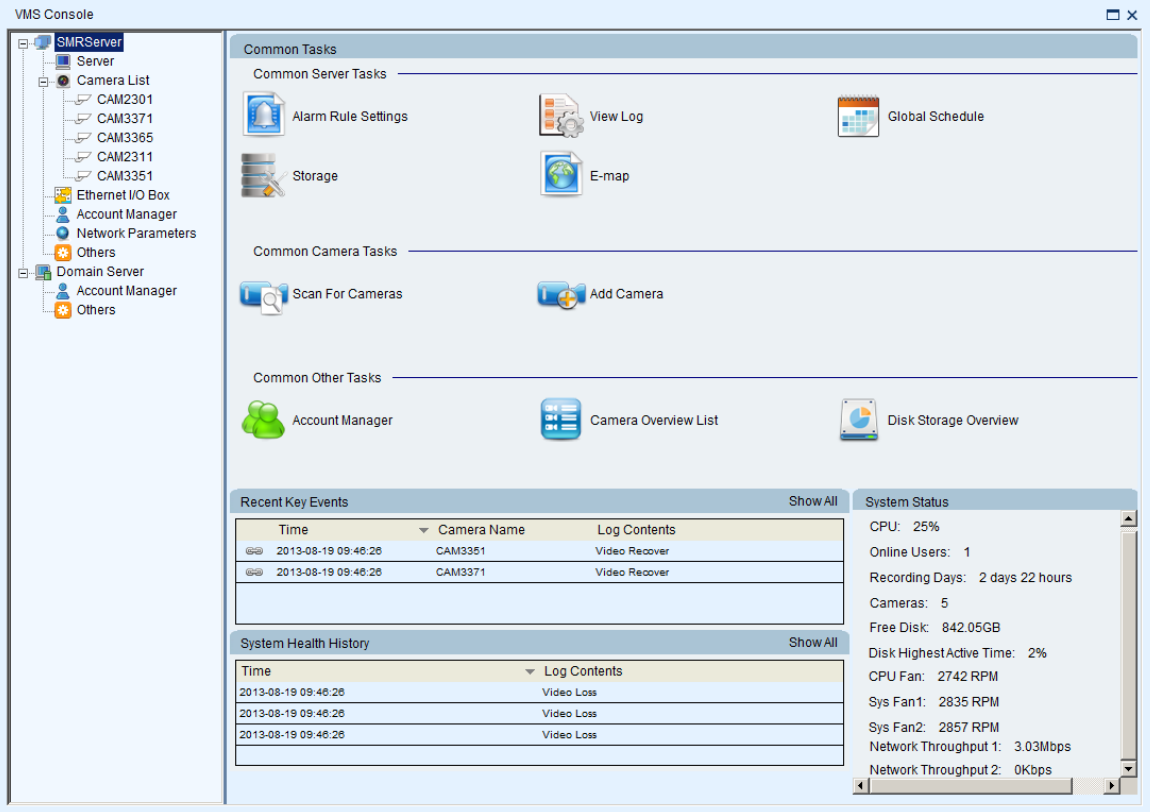
In the VMS system, the management scope is referred to as a “Domain.” Managed servers are all part of a “Domain” with uniform access rules and a single configuration point. For basic local domains this configuration points are the VMS Console.

13.1.1. Entering the Home Page - VMS Server

Select Setup Button on the menu bar.



The home page appears, listing shortcuts to commonly used functionalities, system status, and recent events.



Recent Key Events

	Time	Camera Name	Log Contents
	2013-08-19 09:46:26	CAM3351	Video Recover
	2013-08-19 09:46:26	CAM3371	Video Recover

System Health History

Time	Log Contents
2013-08-19 09:46:26	Video Loss
2013-08-19 09:46:26	Video Loss
2013-08-19 09:46:26	Video Loss

System Status

CPU: 25%
Online Users: 1
Recording Days: 2 days 22 hours
Cameras: 5
Free Disk: 842.05GB
Disk Highest Active Time: 2%
CPU Fan: 2742 RPM
Sys Fan1: 2835 RPM
Sys Fan2: 2857 RPM
Network Throughput 1: 3.03Mbps
Network Throughput 2: 0Kbps

Here are the screen elements:

Common Server Tasks

Lists shortcuts to frequently accessed server functionalities.

Alarm Rule Settings

In the alarm rule settings, you can combine the alarm trigger conditions with action items such as event notification, video recording, and/or camera movements. See *Alarm Rules* for more details.

View Log

The Event Log displays the camera the alarm occurred on, the date, the alarm type, and if applicable a link to the live-view feed of the camera. See *Alarms View and Notification* > *Live View Event Log* for more details.

Global Schedule

A global schedule can be created to apply to an entire Server. See *Scheduling Recording* > *Global Scheduling* for more details.

Storage

Opens the Storage Manager that allows you to configure storage settings. See *Server Settings* > *Storage Management* for more details.

E-map

When alarms occur, an administrator can quickly locate where the alarms took place using an E-map. See *E-Maps* for more details.

Common Camera Tasks

Lists shortcuts to frequently accessed camera functionalities.

Scan for Cameras

Allows you to scan cameras automatically. See *Adding Cameras* > *Automatic Scan for Cameras* for more details.

Add Cameras

Allows you to add cameras manually. See *Adding Cameras* > *Manually Adding Cameras* for more details.

Common Other Tasks

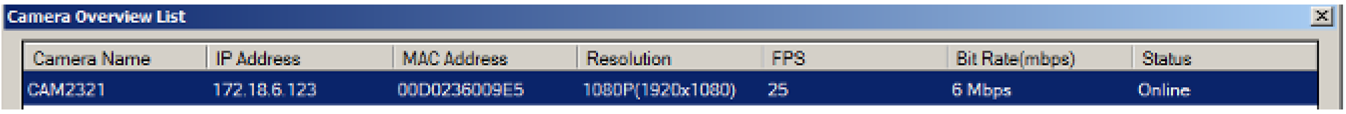
Lists shortcuts to frequently accessed system tasks.

Account Manager

Allows you to manage user accounts. See *Account Manager* for more details.

Camera Overview List

Shows the cameras added and their status.

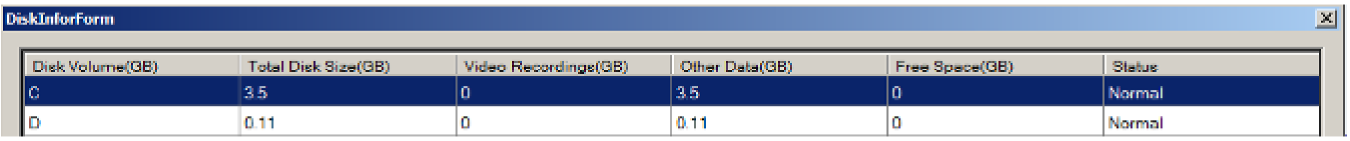


Camera Overview List

Camera Name	IP Address	MAC Address	Resolution	FPS	Bit Rate(mbps)	Status
CAM2321	172.18.6.123	00D0236009E5	1080P(1920x1080)	25	6 Mbps	Online

Disk Storage Overview

Shows information about the hard disks.



DiskInforForm

Disk Volume(GB)	Total Disk Size(GB)	Video Recordings(GB)	Other Data(GB)	Free Space(GB)	Status
C	3.5	0	3.5	0	Normal
D	0.11	0	0.11	0	Normal

Recent Key Events

Lists recent important system events. To view all system events, click Show All at the top right corner. The Event Log will appear. See *Alarms View and Notification* > *Live View Event Log* for more details.

System Health History

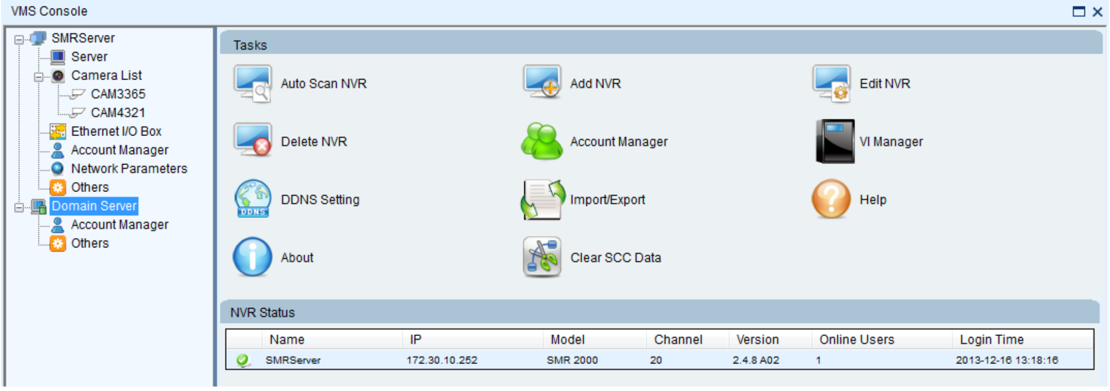
Lists the summary of recent user access. To view all history, click Show All at the top right corner.

System Status

Shows the status of system components.

13.1.2. Entering the Home Page - Local Domain

Select Domain Server from the side bar. The home page appears, listing shortcuts to commonly used functionalities and system status.



Name	IP	Model	Channel	Version	Online Users	Login Time
SMRServer	172.30.10.252	SMR 2000	20	2.4.8 A02	1	2013-12-16 13:18:16

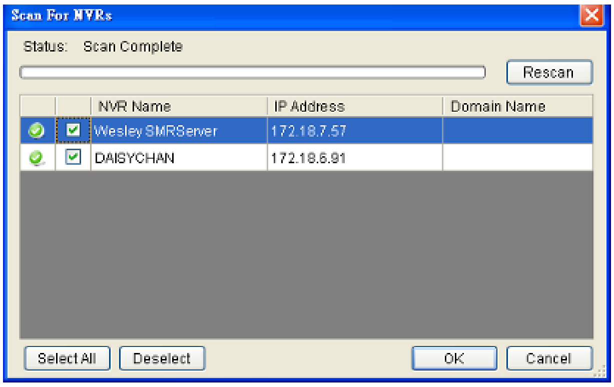
Here are the screen elements:

Tasks

Lists shortcuts to frequently accessed server functionalities.

Auto Scan NVR

Scans for the existing NVR Servers.

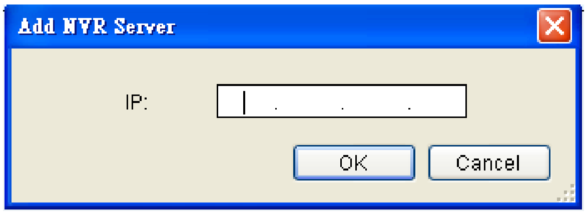


Status: Scan Complete

		NVR Name	IP Address	Domain Name
✓	☑	Wesley SMRServer	172.18.7.57	
✓	☑	DAISYCHAN	172.18.6.91	

Add NVR

NVR Server can be added by entering the Server IP.



Edit NVR

Users can change both the setting of the stream port and the IP address by editing the Server.

Delete NVR

The added NVR Server can be deleted.

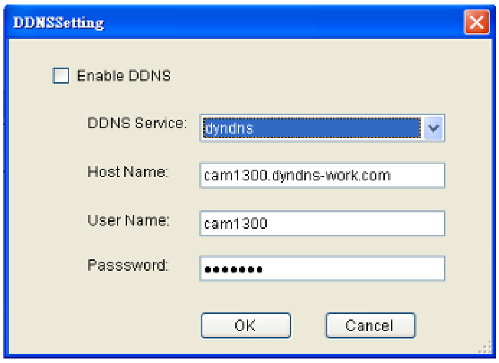
Account Manager

Account management for the domain can be performed under the *Account Manager* > *Account List* node. Under this dialog, you may add, delete, and edit domain users. See *Account Manager* for more details.

VI Manager

The VI server list can be managed in the *VI Manager* node in the *Server*. See *Server Setup* > *Other Tasks* > *VI Manager* for more details.

DDNS Setting



☐ Enable DDNS

DDNS Service: dyndns

Host Name: cam1300.dyndns-work.com

User Name: cam1300

Passsword: •••••••

DDNS (Dynamic Domain Name Server) is a protocol that enables the camera to maintain a static connection address, even when its IP changes. Access using this feature is disabled by default.

Connecting using DDNS requires registration on third-party websites for DDNS services. Select desired DDNS service website, check the **Enable DDNS** option, and fill in valid user name and password. You can then access the camera through the registered domain name.

Import/Export

Configuration/setup files can be imported/exported to the server. See *Server Setup* > *Other Tasks* > *Import/Export or Other Parameters* > *Other Tasks* > *Import/Export* for more details

Help

Allows you to access the VMS User Manual.

About

Allows you to view server and client information. See *Server Basic Functions* > *Viewing Server and Client Information* for more details.

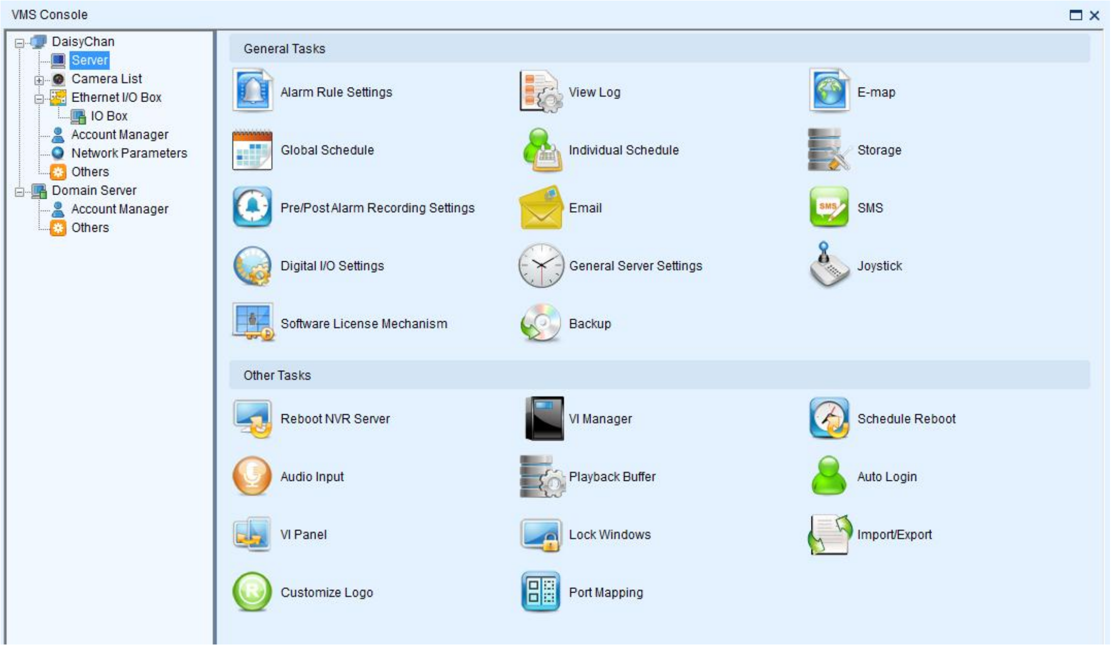
Clear SCC Data

Allows you to clear the SCC / VMS data on the Domain Server.

NVR Status

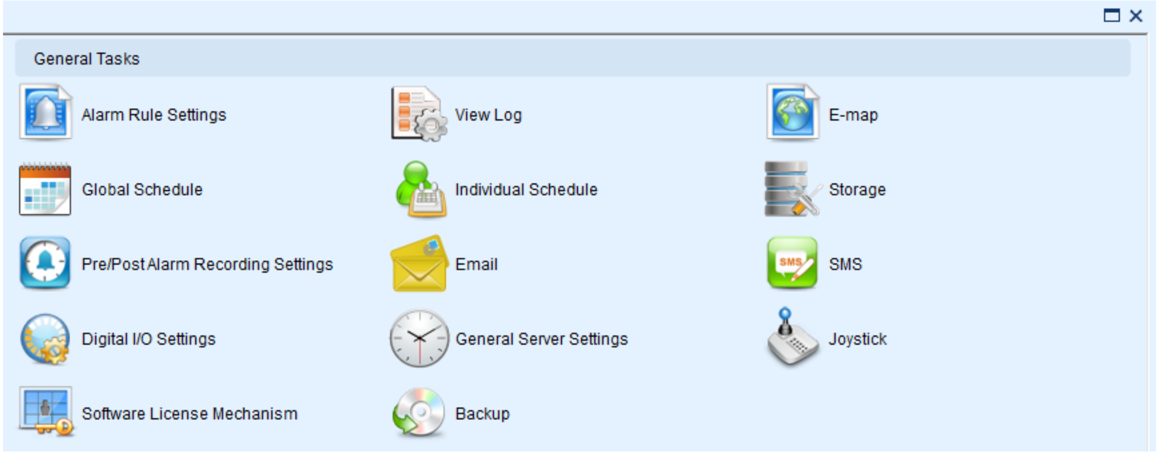
Shows the status of the NVR Server.

13.2. Server Setup



13.2.1. General Tasks

Here you can access shortcuts for general server settings.



Alarm Rule Settings

In the alarm rule settings, you can combine the alarm trigger conditions with action items such as event notification, video recording, and/or camera movements. See *Alarm Rules* for more details.

View Log

The Event Log displays the camera the alarm occurred on, the date, the alarm type, and if applicable a link to the live-view feed of the camera. See *Alarms View and Notification* > *Live View Event Log* for more details.

E-Map

When alarms occur, an administrator can quickly locate where the alarms took place using an E-map. See *E-Maps* for more details.

Global Schedule

A global schedule can be created to apply to an entire Server. See *Scheduling Recording* > *Global Scheduling* for more details.

Individual Schedule

Individual schedules, which take precedence over the global schedule, can be set for each camera. See *Scheduling Recording* > *Individual Scheduling* for more details.

Storage

Opens the Storage Manager that allows you to configure storage settings. See *Server Settings* > *Storage Management* for more details.

Pre/Post Alarm Recording Settings

The Server can trace back and preserve video/images from several minutes before and after the occurrence of an alarm. See *Server Settings* > *Pre/Post Alarm Recording Settings* for more details.

Email

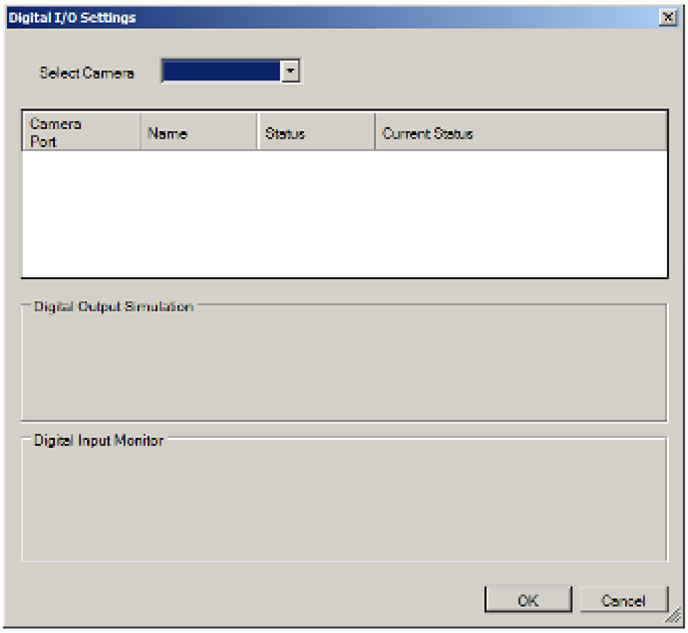
When the alarm is triggered, an E-Mail will be sent. See *Alarm Rules*> *Alarm Actions* > *Email* for more details.

SMS

Configures the SMS setting. See *Server Settings* > *To perform Notification Setting* for more details.

Digital I/O Settings

Allows you to configure digital I/O port settings.

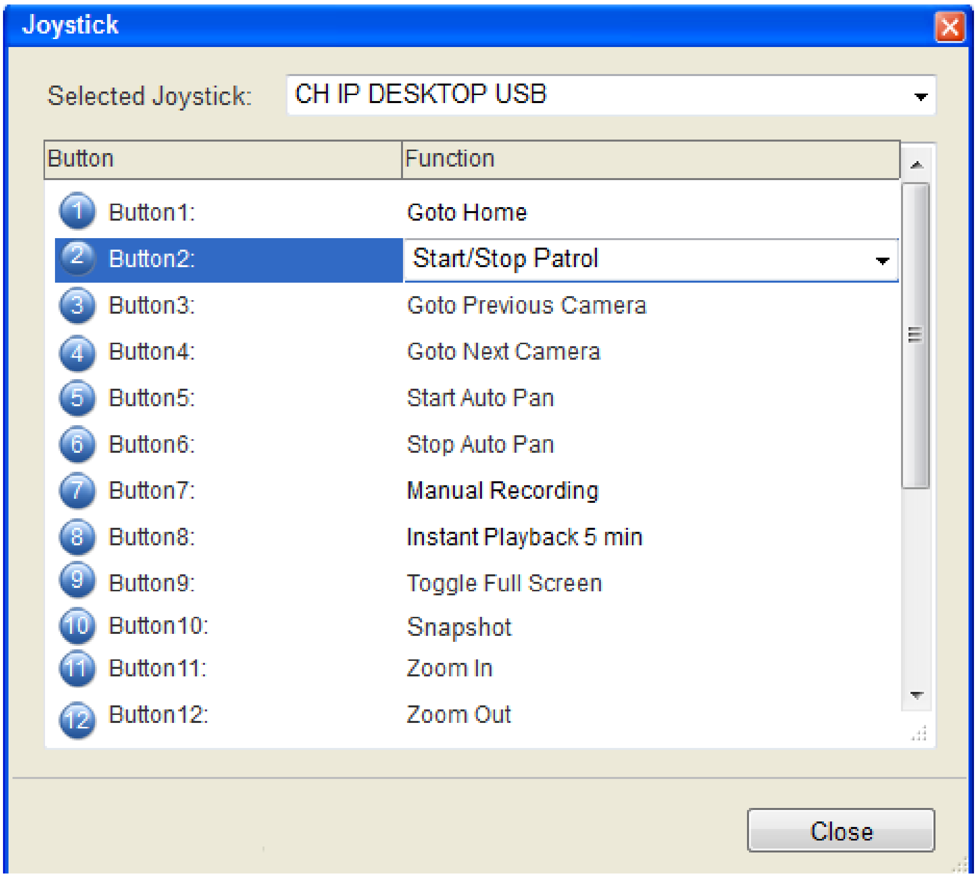


Genera Server Settings

Involves configuring both storage and server time settings. See *Server Settings* > *General Server Settings* for more details.

Joystick

CH Products IP Desktop USB Joystick is supported for PTZ camera control. Connect the joystick controller to the USB port. The *Joystick Settings* Window will prompt after clicking **Joystick**. In this window, functions of each button are listed.



Selected Joystick: CH IP DESKTOP USB

Button	Function
Button1:	Goto Home
Button2:	Start/Stop Patrol
Button3:	Goto Previous Camera
Button4:	Goto Next Camera
Button5:	Start Auto Pan
Button6:	Stop Auto Pan
Button7:	Manual Recording
Button8:	Instant Playback 5 min
Button9:	Toggle Full Screen
Button10:	Snapshot
Button11:	Zoom In
Button12:	Zoom Out

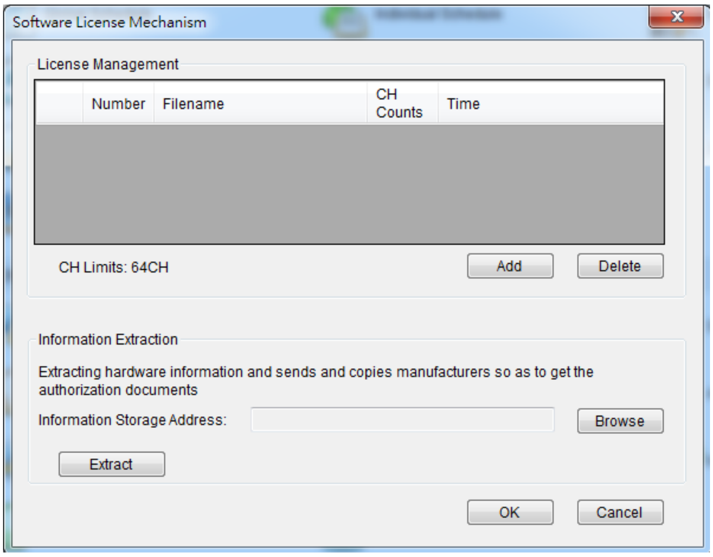
Button Number	Function
1	Resets all the settings, including page auto-flipping and different screen divisions.
2	Switches on/off the functionality of switching between preset viewpoints.
3	Goes to the view of the previous camera.
4	Goes to the view of the next camera.
5	Starts auto pan.
6.	Stops auto pan.
7	Manually records the video streams.
8	Pops up an instant playback for five minutes.
9	Brings up the full screen view.
10	Captures a snapshot.
11	Increase the zoom distance.
12	Decrease the zoom distance.

You may reset the functions by choosing within the dropdown list.

Software License Mechanism (For Local Client Only)

Extra supported channels can be added by purchasing licenses.

1. Click **Browse** under Information Storage Address, and enter a file name for exporting the existing channel information.



Software License Mechanism

License Management

Number	Filename	CH Counts	Time

CH Limits: 64CH

Information Extraction

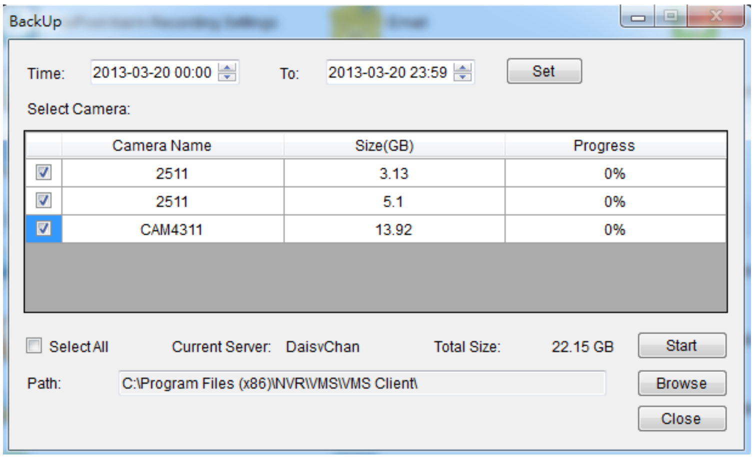
Extracting hardware information and sends and copies manufacturers so as to get the authorization documents

Information Storage Address:

2. Click **Extract**.
3. Send the file (xxx.info) to Surveon's website
4. After receiving the license file, import it by clicking **Add**.
5. Check under the domain server to make sure if the channels are added successfully.

Backup (For Local Client Only)

1. The video recording can be backed up. Set the time, select the camera, and choose the saving path for the backup files.



BackUp

Time: 2013-03-20 00:00 To: 2013-03-20 23:59

Select Camera:

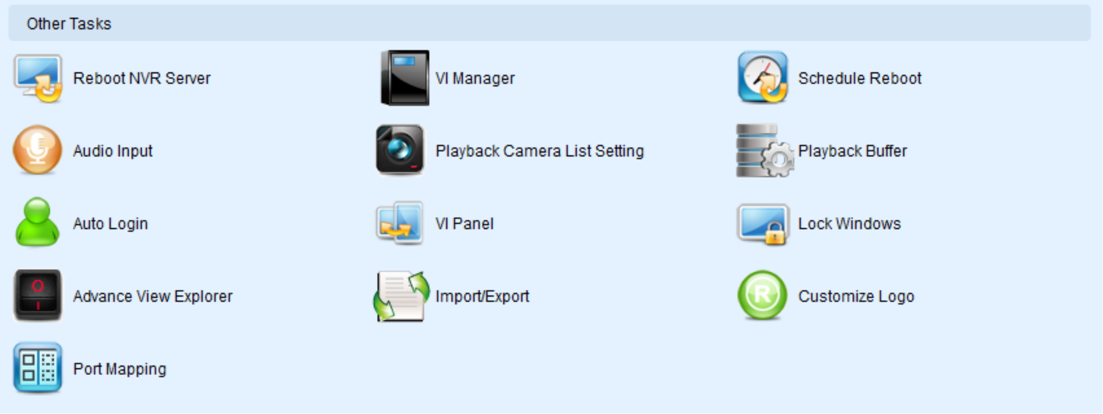
	Camera Name	Size(GB)	Progress
☑	2511	3.13	0%
☑	2511	5.1	0%
☑	CAM4311	13.92	0%

□ Select All Current Server: DaisvChan Total Size: 22.15 GB

Path: C:\Program Files (x86)\NVR\VMS\VMS Client\

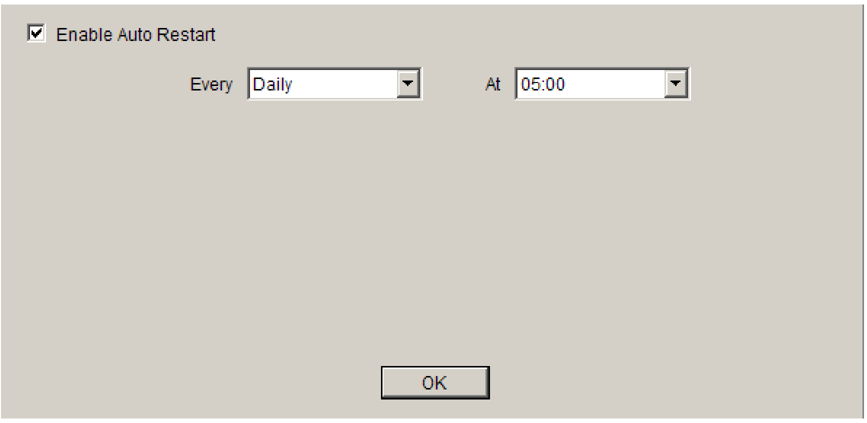
12.2.2. Other Tasks

Here you can access shortcuts for advanced server settings.



Reboot NVR Server

The Server can be configured to perform a scheduled restart, daily or on a certain day of the week. Due to the trend of Windows performance degradation over time, we recommend that a reboot be performed at least once a week. This function can be found in the *Auto Reboot* node of the *Server*.



☑ Enable Auto Restart

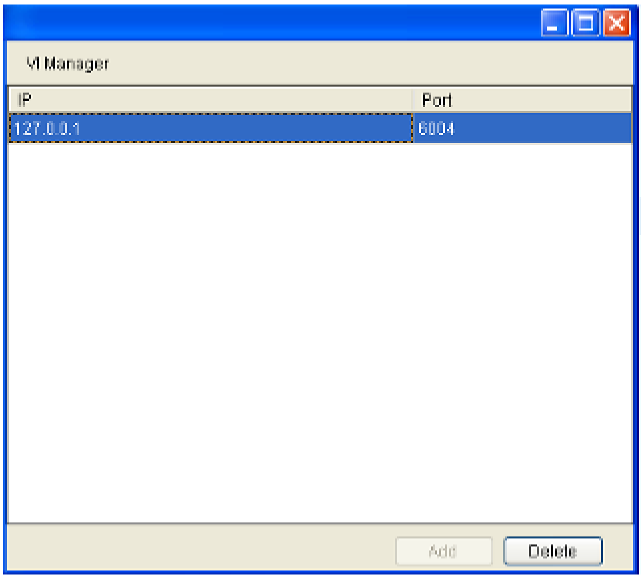
Every Daily At 05:00

To configure an auto restart in this menu:

1. Select the **Enable Auto Restart** checkbox.
2. From the **Every** dropdown choose a day which you want to schedule an automatic restart. Options include weekly (Monday – Sunday) or Daily restarts.
3. From the **At** dropdown, choose the hour which you want to perform the restart. Options include every hour of the day.
4. Click the **OK** button to save your settings.

VI Manager

When a Video-Intelligent function is performed on the Server, the Server will contact a VI server to perform the computation for the VI function. The VI server list can be managed in the *VI Manager* node in the *Server*. In this dialog existing server IPs and ports can be viewed, and the user can choose to add or remove servers from the list.



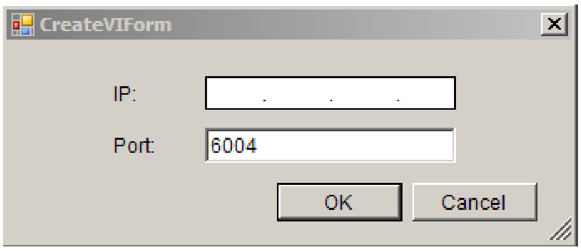
IP	Port
127.0.0.1	6004

Note: At least one VI server must be configured on the system in order to successfully perform VI functions.

Adding a VI Server

To add a VI server to the server list in this dialog:

1. Click the **Add** button, the server will respond with a VI form.



IP: . . .

Port: 6004

2. Fill in the IP address for the new VI server in the **IP** field.
3. Unless a specific port is desired and configured, leave the **Port** field default value, 6004.
4. Click **OK** to add the server. The server will be added to the VI server list.

Deleting a VI Server

To remove a VI server to the server list in this dialog:

1. Highlight the listing of the server you wish to remove.
2. Click the **Delete** button, the server will be removed from the server list.

Schedule Reboot

The client can be setup to automatically restart the client or the computer.

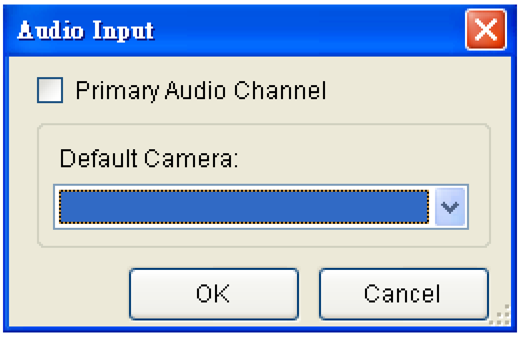
To configure the auto-reboot function:

1. From the client Schedule Reboot popup, check the **Reboot** box.
2. Select either **Reboot Client** to schedule a client restart, or **System Restart?** to schedule a windows restart.
3. From the **Every** dropdown, choose the day that you want to schedule restarts, or you may choose to restart every day.
4. From the **At** dropdown, choose the scheduled restart time.

Note: Auto-Login should be configured with Auto-restart or you will lose functionality until a user can be logged-in.

Audio Input

There are two choices available for audio channel selection. These two are selected using the **Primary Audio Channel** check box. If checked, the client will automatically use the audio feed from the selected/highlighted camera during live view.


Audio Input

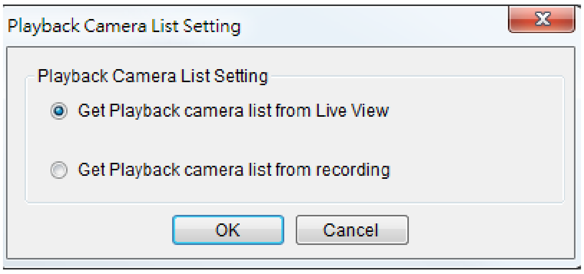
☐ Primary Audio Channel

Default Camera:

Unchecking the box will allow you to select a camera from the **Default Camera** drop-down. This camera will provide the audio feed no matter which channel is selected in live-view.

Playback Camera List Setting

Playback camera list can be from Live View or from the recording.



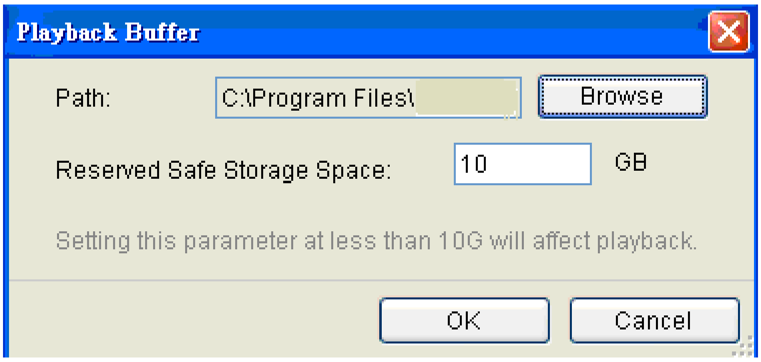
Playback Camera List Setting

Playback Camera List Setting

● Get Playback camera list from Live View

○ Get Playback camera list from recording

Playback Buffer



Playback Buffer

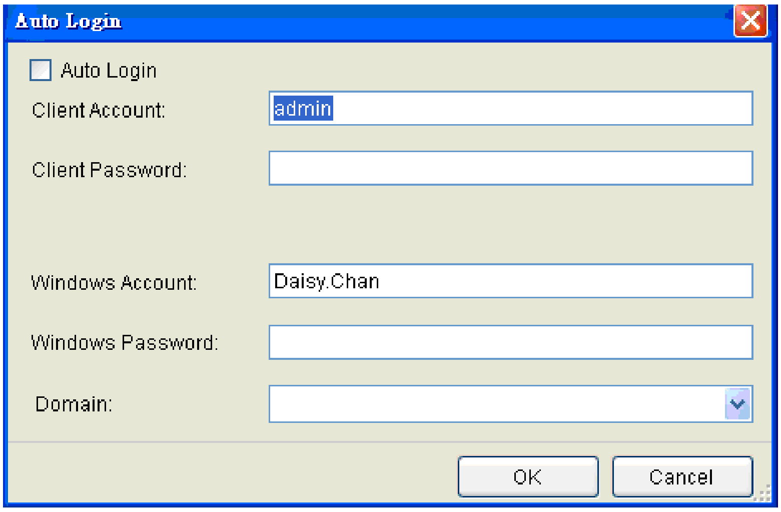
Path: C:\Program Files\

Reserved Safe Storage Space: 10 GB

Setting this parameter at less than 10G will affect playback.

The Playback Buffer is used for downloading video recordings before the playback. The reserved safe storage space should be at least 10 GB.

Auto Login



Auto Login

□ Auto Login

Client Account: admin

Client Password:

Windows Account: Daisy.Chan

Windows Password:

Domain:

The client can be setup to automatically login after a crash or on startup.

To configure the auto-login function:

1. From the client general settings popup, check the **Auto Login** box.
2. If you want to automatically login to the client, enter the following information:
   - **Client Account** – The client account name.
   - **Client Password** – The client password.
3. If you want to automatically log into windows after a restart enter the following information:
   - **Windows Account** – The Windows account name.
   - **Windows Password** – The Windows password.
   - **Domain** – The login domain.

VI Panel

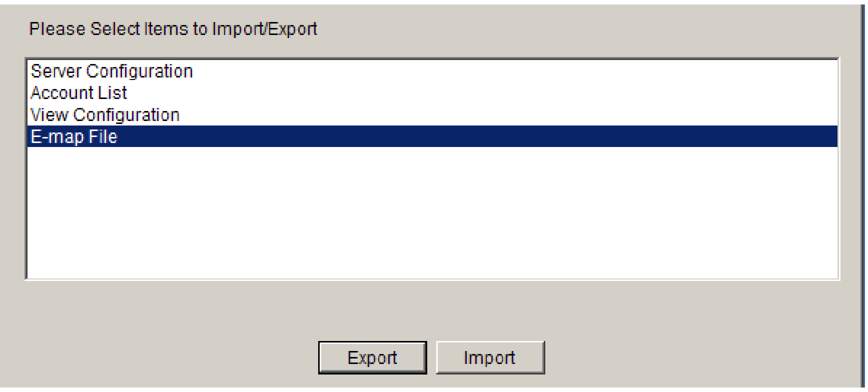
The VMS can be configured to display windows in either 16:9 or 4:3 aspect ratios. To switch between these two, click **VI Panel**.

Lock Windows

The Video Panels can be locked in a certain configuration by clicking **Lock Windows**.

Import/Export

The following types of configuration/setup files can be imported/exported to the Server:



Please Select Items to Import/Export

Server Configuration
Account List
View Configuration
E-map File

- **Server Configuration**
- **Account List**

- **View Configuration**
- **E-map File**

Importing Parameters

To import parameters into the Server:

1. Select the item that you wish to import by clicking on the item type.
2. Click the **Import** button. A windows explorer dialog will appear.
3. Select the file to import from the file explorer, and click **Open** to import the file.
4. Click **OK** to confirm import. The Server will require a restart before imported configurations and files are applied.

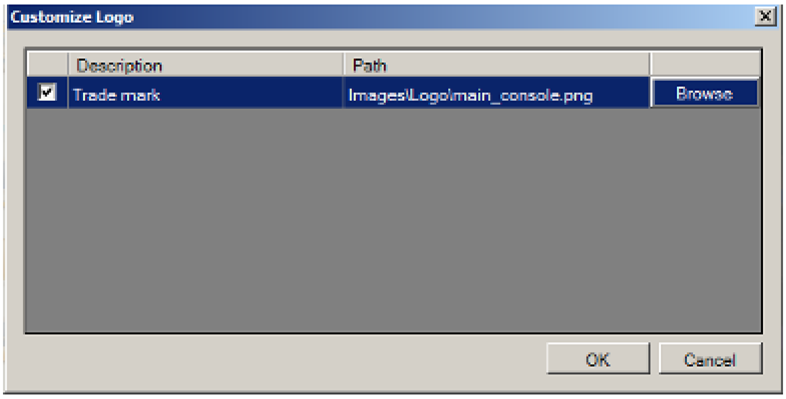
Exporting Parameters

To export parameters into the Server:

1. Select the item that you wish to export by clicking on the item type.
2. Click the **Export** button. A windows explorer dialog will appear.
3. Input a filename and select the export path in the file explorer, and click **Save** to export the file.

Customize Logo

Allows users to change the logo of the Client by themselves.



Customize Logo

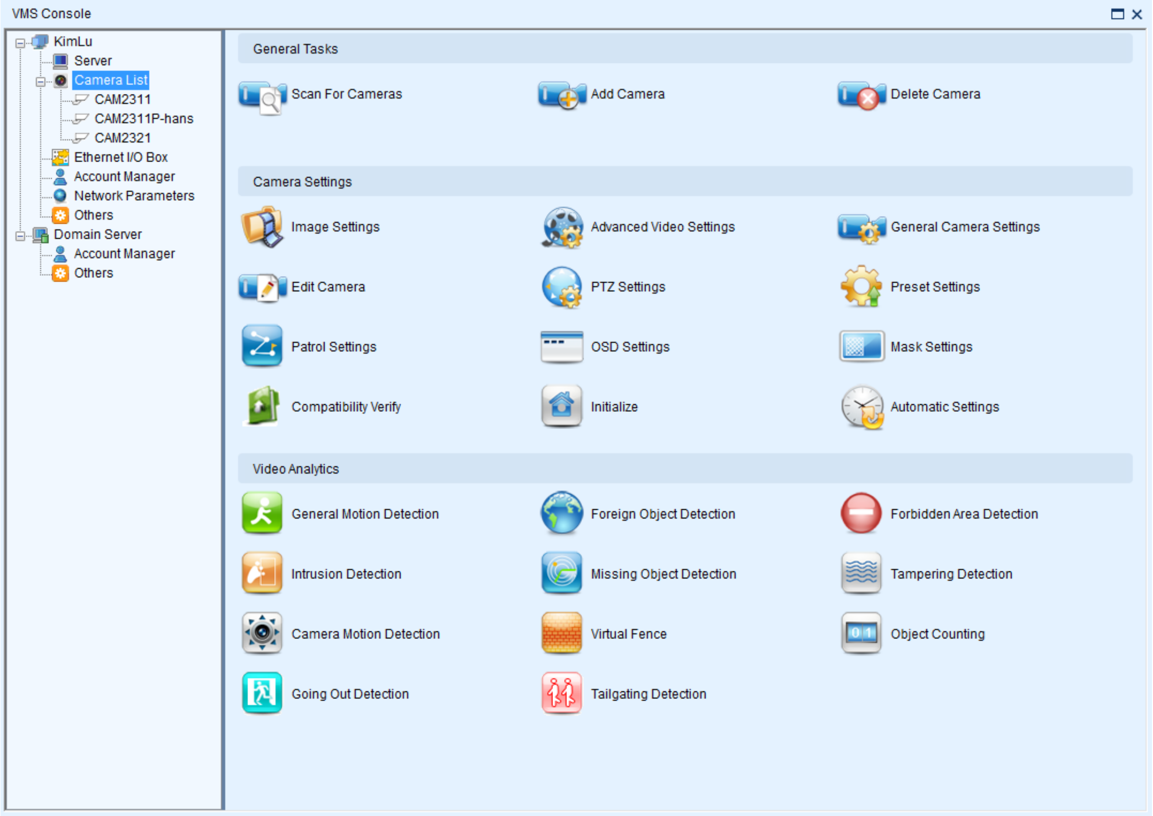
	Description	Path	
☑	Trade mark	Images\Logo\main_console.png	Browse

Note: The recommended size for the logo pictures is 280X52, in png format.

Router Port Mapping

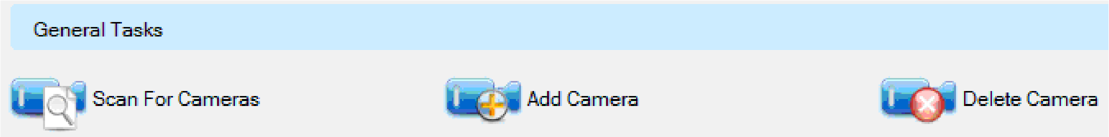
Router Port Mapping for VMS/NVR Server. See *Port Forwarding* > *Port Forwarding for Accessing VMS Server* for more details.

13.3. Camera Setup



13.3.1. General Tasks

Here you can access shortcuts for general camera settings.



Scan for Cameras

Allows you to scan cameras automatically. See *Adding Cameras* > *Automatic Scan for Cameras* for more details.

Add Cameras

Allows you to add cameras manually. See *Adding Cameras* > *Manually Adding Cameras* for more details.

Delete Camera

Allows you to delete cameras manually. See *Deleting a Camera* for more details.

13.3.2. Camera Settings

Here you can access shortcuts for general camera settings.

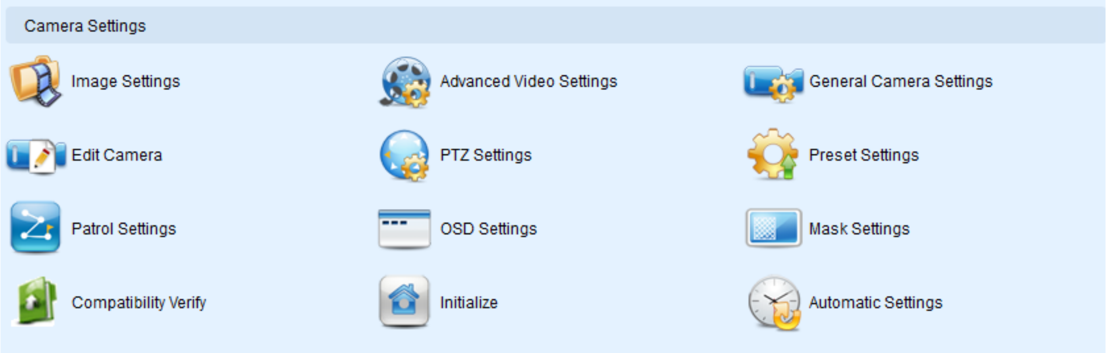


Image Settings

Allows you to adjust camera image settings. See *Camera Image and Quality Settings* > *Camera Image Settings* for more details.

Advanced Video Settings

Allows you to adjust video image parameters. See *Camera Image and Quality Settings* > *Advanced Video Settings* for more details.

General Camera Settings

Camera general settings include network connectivity settings, as well as basic camera name, description and icon settings. See *Camera General Settings* > *General Settings* for more details.

Edit Camera

In certain situations it may be necessary to change the Vendor or Model information for the camera. See *Camera General Settings* > *Changing the Camera Model and Vendor* for more details.

PTZ Settings

The PTZ settings deal with the software PTZ control panel. These settings adjust how much the camera will pan, tilt, zoom, and focus with each control panel input. See *PTZ Settings* > *PTZ Settings* for more details.

Preset Settings

Certain preset pan/tilt/zoom values can be saved in order to move the camera quickly to a point of interest. See *PTZ Settings* > *PTZ Preset Settings* for more details.

Patrol Settings

In cameras with PTZ functionality, one camera can be used to survey a large area. This can be done automatically using the patrol functionality. See *PTZ Controls* > *Patrol* for more details.

OSD Settings

On cameras with OSD capabilities, these capabilities can be configured within the server. See *Camera General Settings* > *OSD Settings* for more details.

Compatibility Verify

Check the compatibility of other connecting device.

Initialize

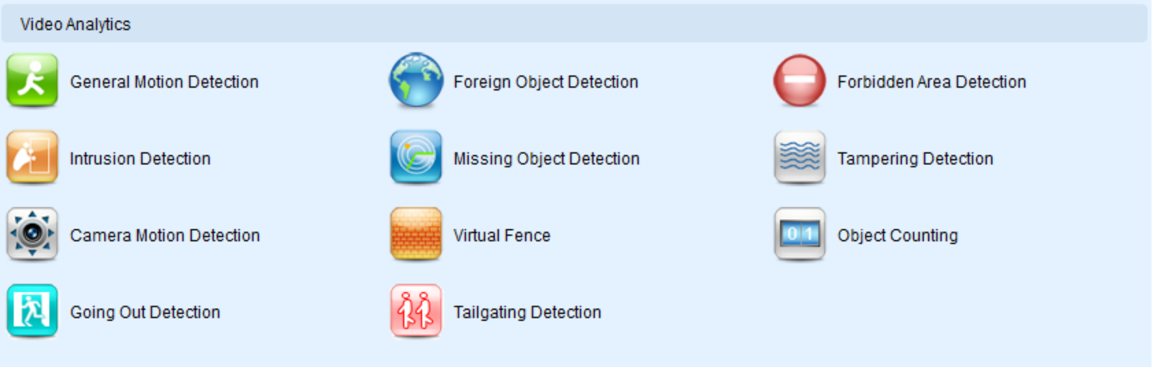
Restores initial settings of the camera. See *Initializing a Camera* for more details.

Automatic Settings

Camera time can be synchronized with the server. See *Camera Settings* for more details.

13.3.3. Video Analytics

Here you can access shortcuts for VI functions.



General Motion Detection

General motion detection involves using the software to analyze the video feed and detect motion in specified areas. See *Camera VI Detection Settings* > *General Motion Detection* for more details.

Foreign Object Detection

Foreign object detection involves using the software to analyze a video feed and detect objects that do not belong. See *Camera VI Detection Settings* > *Foreign Object Detection* for more details.

Forbidden Area Detection

Forbidden area detection involves using the software to analyze the video feed and immediately detect any object in specified areas. See *Camera VI Detection Settings* > *Forbidden Area Detection* for more details.

Intrusion Detection

Intrusion detection involves using the software to analyze the video feed and detect intrusion in specified areas. See *Camera VI Detection Settings* > *Intrusion Detection* for more details.

Missing Object Detection

Missing object detection involves using the software to analyze the video feed and detect missing objects larger than a certain size. See *Camera VI Detection Settings* > *Missing Object Detection* for more details.

Tampering Detection

Tampering detection involves using the software to determine when the camera has been improperly moved or redirected. See *Camera VI Detection Settings* > *Tampering Detection* for more details.

Camera Motion Detection

Camera motion detection involves using the camera hardware to analyze the video feed and detect motion in specified areas. See *Camera VI Detection Settings* > *Camera Motion Detection* for more details.

Virtual Fence

Virtual fence involves using the software to create a fence-crossing detection of the demanding object. See *Camera VI Detection Settings* > *Virtual Fence* for more details.

Object Counting

Object counting involves using the camera to count demanding object crossing the fences. See *Camera VI Detection Settings* > *Object Counting* for more details.

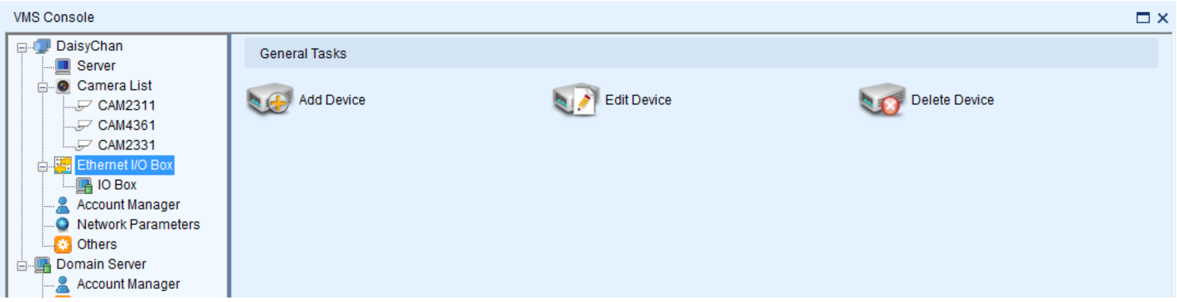
Going Out Detection

Camera motion detection involves using the camera hardware to analyze the video feed and detect motion in specified areas. See *Camera VI Detection Settings* > *Going Out Detection* for more details.

Tailgating Detection

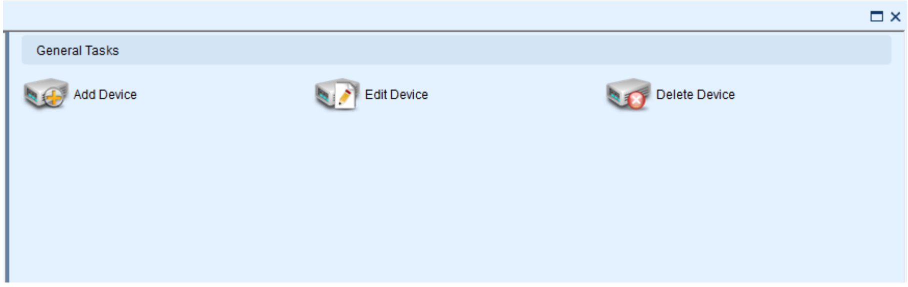
Camera motion detection involves using the camera hardware to analyze the video feed and detect motion in specified areas. See *Camera VI Detection Settings* > *Tailgating Detection* for more details.

13.4. Ethernet I/O Box



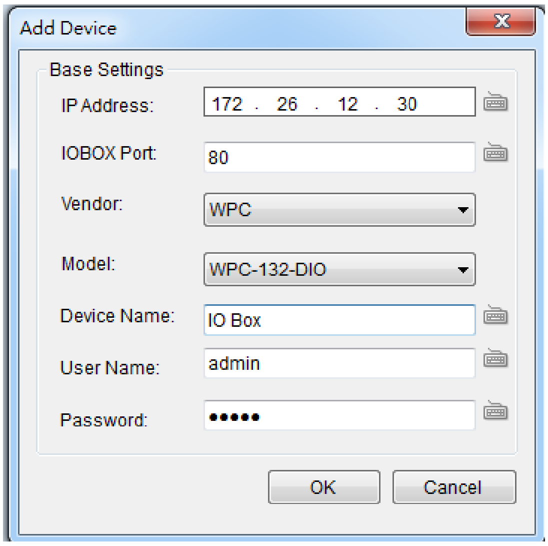
13.4.1. General Tasks

Here you can access shortcuts for general I/O box settings.



Add Device

Allows you to add Ethernet I/O box to the server.



Base Settings

IP Address: 172 . 26 . 12 . 30

IOBOX Port: 80

Vendor: WPC

Model: WPC-132-DIO

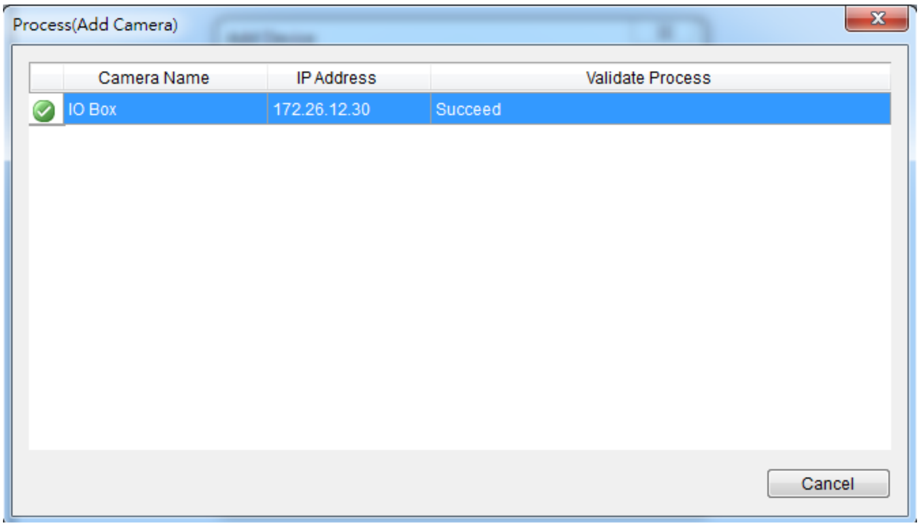
Device Name: IO Box

User Name: admin

Password: •••••

- **IP Address:** The default IP for the I/O box, which is 192.168.0.100.
- **I/ O Box Port:** 80.
- **Model:** WPC-132-DIO.
- **Device Name:** Enter the device name as you like.
- **User Name:** Same with VMS username, **which is always admin**.
- **Password**: Same with the password for VMS login**.**

After the I/O box is added successfully, it will appear on the device list.

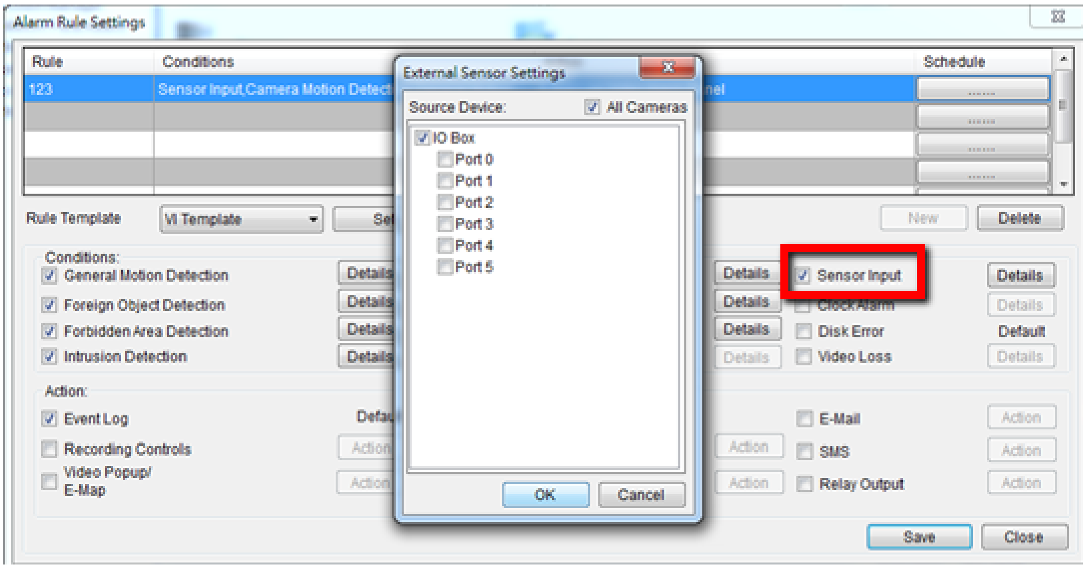


Process(Add Camera)

	Camera Name	IP Address	Validate Process
✓	IO Box	172.26.12.30	Succeed

Go to Alarm Rule Setting, and set Senor Input and Relay Output.

Choose the input/output port numbers.



Alarm Rule Settings

Rule	Conditions	Schedule
123	Sensor Input,Camera Motion Detect	......

Rule Template: VI Template

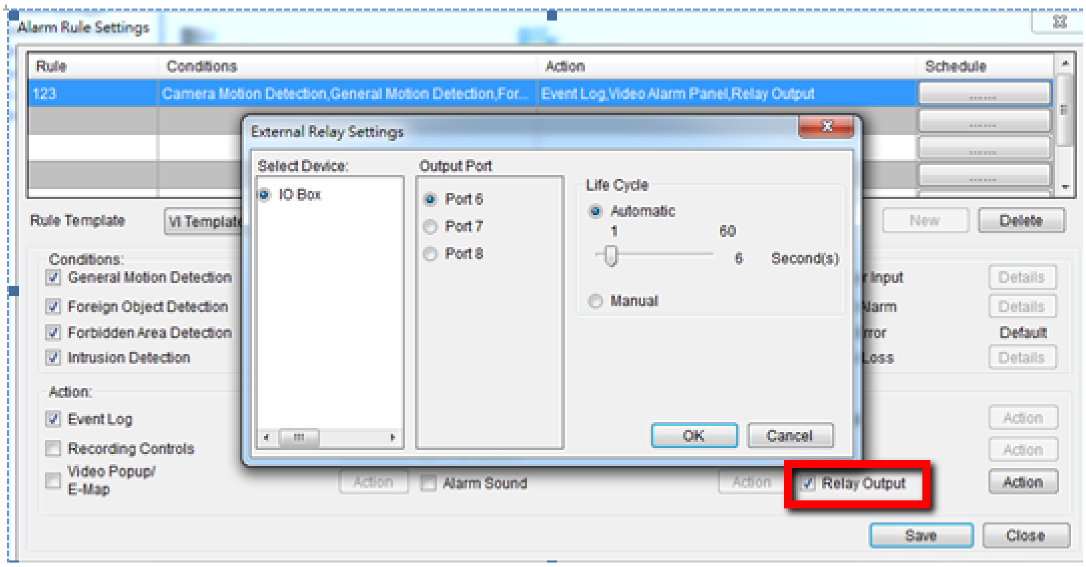
External Sensor Settings

Source Device: ☑ All Cameras

☑ IO Box
☐ Port 0
☐ Port 1
☐ Port 2
☐ Port 3
☐ Port 4
☐ Port 5

Conditions:
☑ General Motion Detection
☑ Foreign Object Detection
☑ Forbidden Area Detection
☑ Intrusion Detection
☑ Sensor Input
☐ Clock Alarm
☐ Disk Error
☐ Video Loss

Action:
☑ Event Log
☐ Recording Controls
☐ Video Popup/ E-Map
☐ E-Mail
☐ SMS
☐ Relay Output



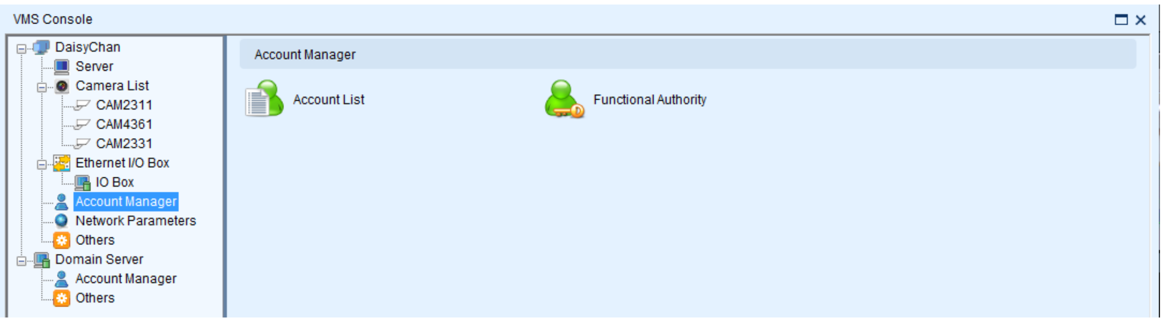
Edit Device

Allows you to edit the added I/O box.

Delete Device

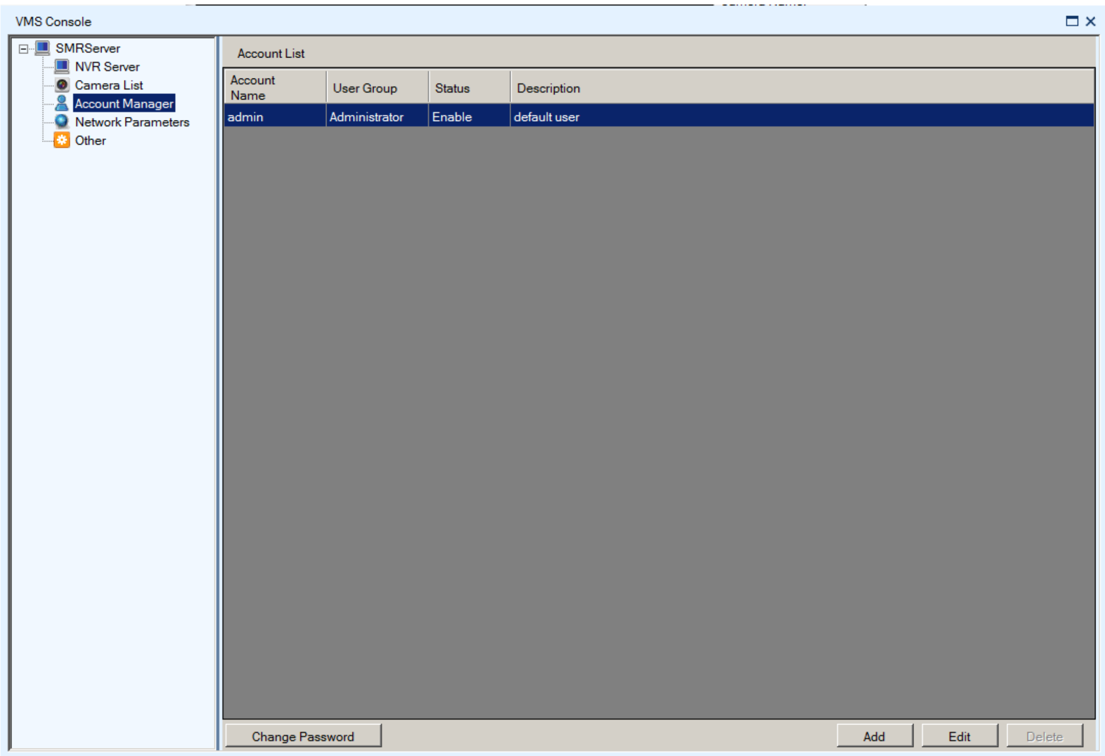
Allows you to delete the added I/O box.

13.5. Account Manager



13.5.1. Account List

Account management for the domain can be performed under the *Account Manager > Account List* node in the *VMS Console*. Under this dialog, you may add, delete, and edit domain users.



Account Name	User Group	Status	Description
admin	Administrator	Enable	default user

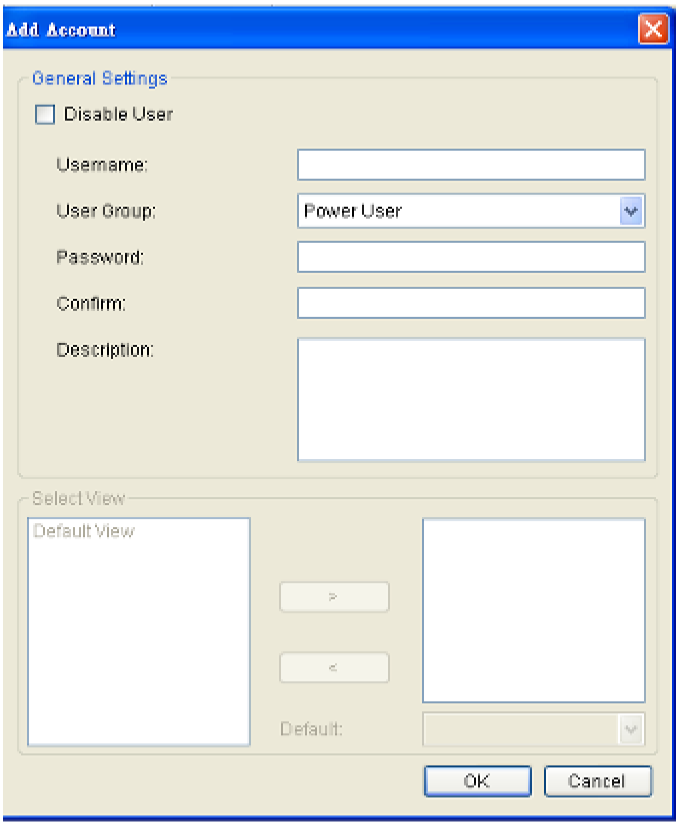
The *Account List* provides the following information about each account:

- **Account Name**
- **User Group -** Type for this user.
- **Status -** This shows if the user is disabled or enabled.
- **Description -** A simple description of the user.

Adding an Account

To add an account to the domain:

1. Access the *Account List* node in the *VMS Console*.



☐ Disable User

User Group: Power User

2. Click the **Add** button at the bottom of the *Account List* screen.

3. In the resulting screen fill out information for the new account:

   - **Username**
   - **User Group -** Select a user type for this user. There are four options:
     - **Administrator** – This group has complete management privileges, including account and VMS/Server management rights.
     - **Power User** – This group has complete account management rights, but does not have many VMS/Server configuration rights.
     - **User** – This group has no configuration rights and limited VMS/Server performance statistics.
     - **Viewer** – This group is limited only to viewing, and has no access to configuration or performance statistics.
   - **Password / Confirm Password** – The password must be typed twice for confirmation purposes.
   - **Description** – A simple description of the new user.

4. If desired check the **Disable User** box to disable this account.

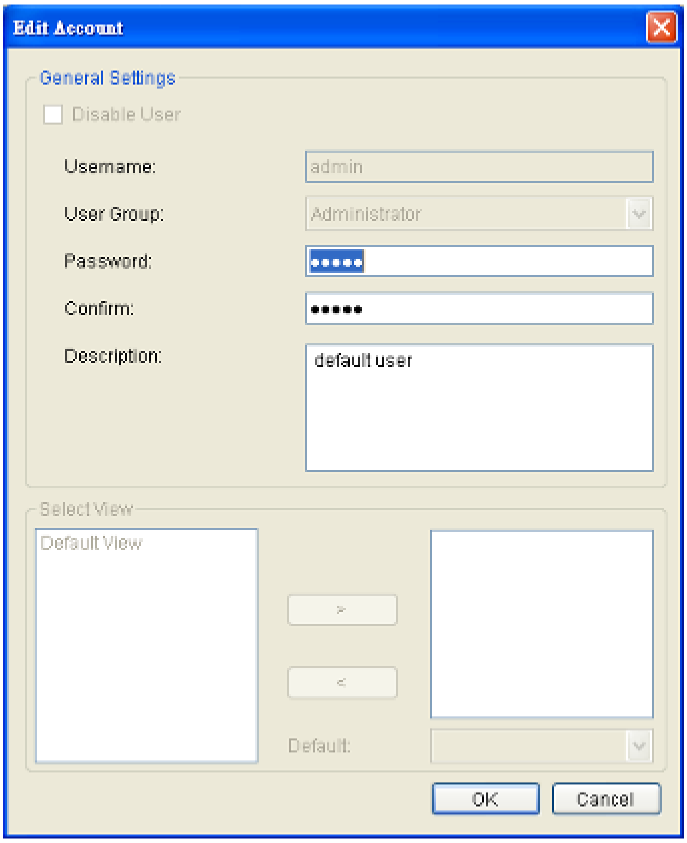
5. Click **Ok** to add the new account. The account will appear in the *Account List*.

Editing an Account

To edit an account to the domain:

1. Access the *Account List* node in the *VMS Console*.

2. Select the account that you wish to edit by clicking on the account.



Edit Account

General Settings

□ Disable User

Username: admin

User Group: Administrator

Password: •••••

Confirm: •••••

Description: default user

Select View

Default View

3. Click the **Edit** button at the bottom of the *Account List* screen.

4. In the resulting screen change any of the following account information:

- **User Group -** Selects a user type for this user. There are four options:
  - **Administrator** – This group has complete management privileges, including account and VMS/NVR Server management rights.
  - **Power User** – This group has complete account management rights, but does not have many VMS/NVR Server configuration rights.

- **User** - This group has no configuration rights and limited VMS/Server performance statistics.
- **Viewer** – This group is limited only to viewing, and has no access to configuration or performance statistics.

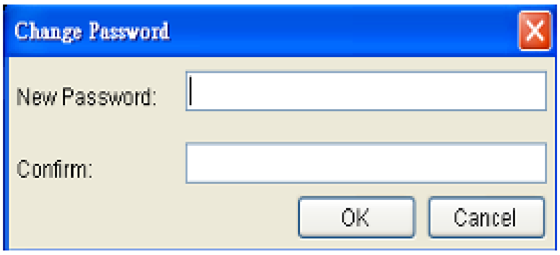
- **Password/Confirm Password** – If changed the password must be typed twice for confirmation purposes.
- **Description -** A simple description of the user.

5. If desired check the **Disable User** box to disable this account.
6. Click **Ok** to save the changes to the account. If the account description, user group or status changes, it will be reflected in the *Account List*.

Changing an Account Password

In addition to editing the password from using the *Account List* editing function, the password for the current account can also be changed by clicking the **Change Password** at the lower left corner of *Account List Window*.

This will display a dialog that allows you to enter and confirm a new password.



Deleting an Account

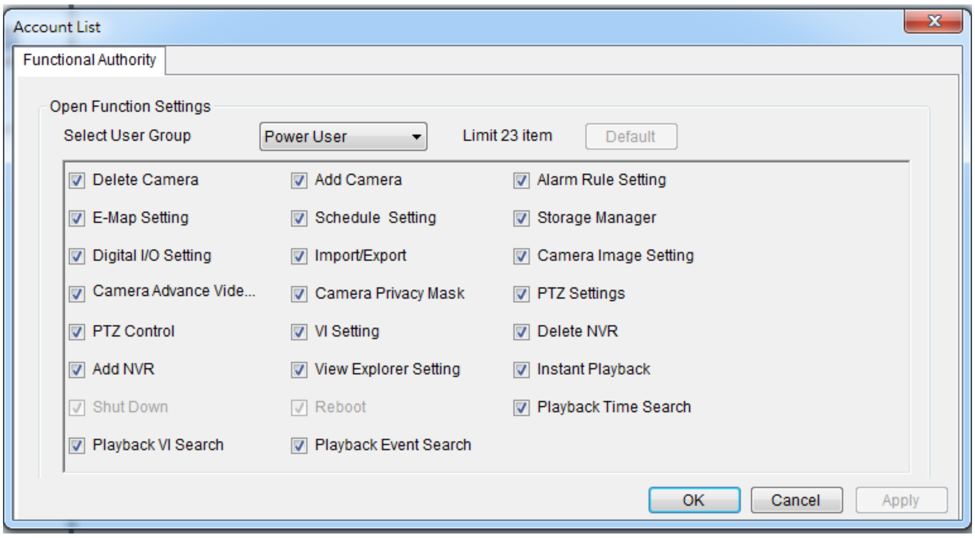
To delete an account to the domain:

1. Access the *Account List* node in the *VMS Console*.
2. Select the account that you wish to delete by clicking on the account.
3. Click the **Delete** button at the bottom of the *Account List* screen.
4. When prompted to confirm deletion click **Yes** to delete the account. The deletion will be reflected in the *Account List*.

Note: The *Admin* account cannot be deleted.

13.5.2. Functional Authority

Functionalities can be authorized according to different user levels.



Select User Group: Power User

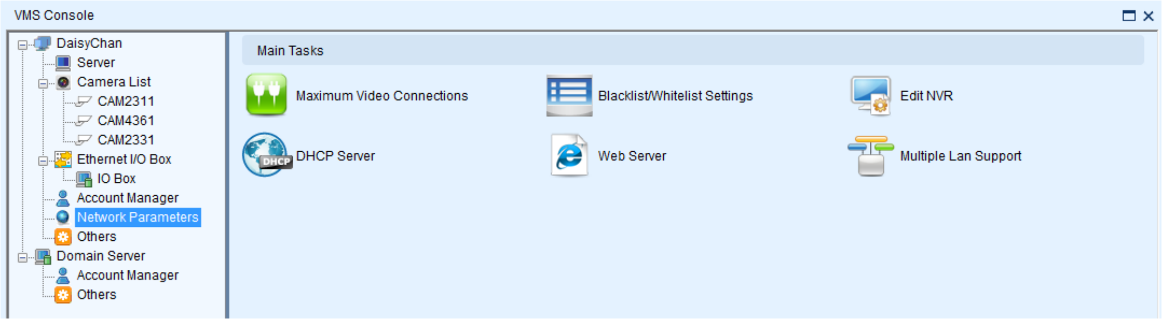
Limit 23 item

☑ Delete Camera
☑ E-Map Setting
☑ Digital I/O Setting
☑ Camera Advance Vide...
☑ PTZ Control
☑ Add NVR
☑ Shut Down
☑ Playback VI Search

☑ Add Camera
☑ Schedule Setting
☑ Import/Export
☑ Camera Privacy Mask
☑ VI Setting
☑ View Explorer Setting
☑ Reboot
☑ Playback Event Search

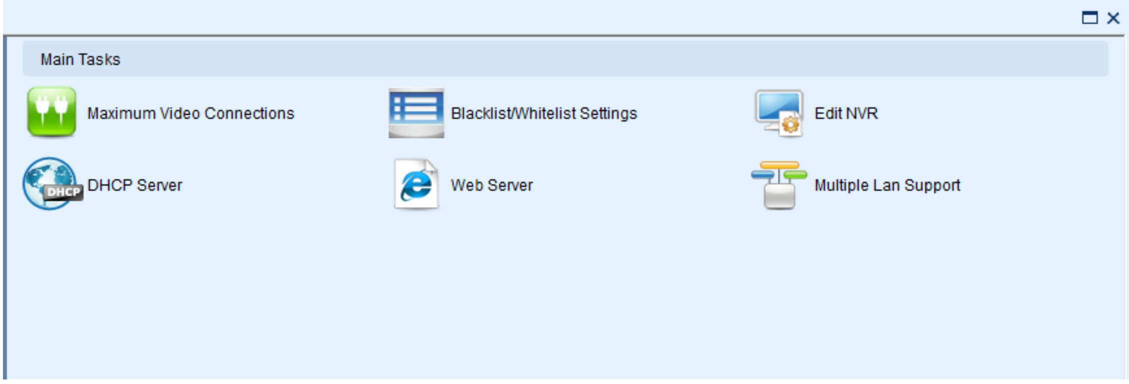
☑ Alarm Rule Setting
☑ Storage Manager
☑ Camera Image Setting
☑ PTZ Settings
☑ Delete NVR
☑ Instant Playback
☑ Playback Time Search

13.6. Network Parameters

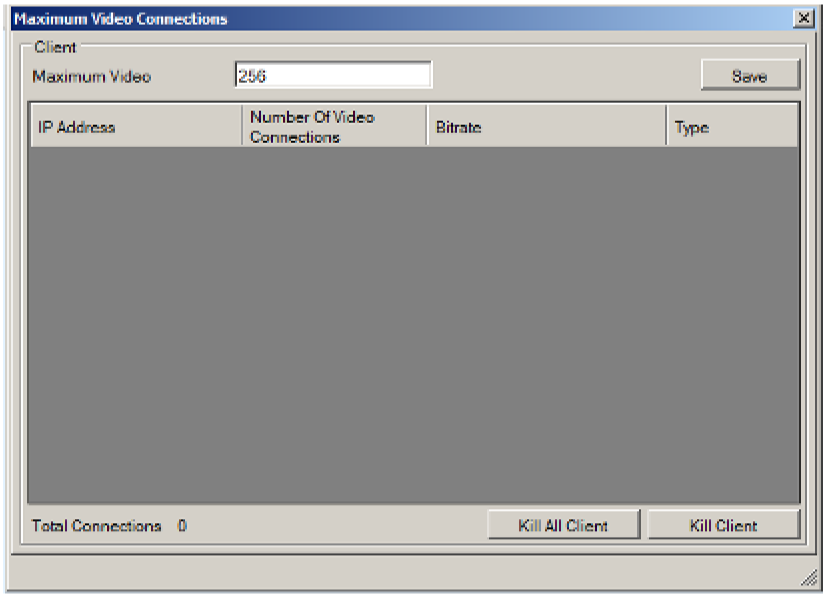


13.6.1. Main Tasks

Here you can access shortcuts for network parameter settings.



Maximum Video Connections



Maximum Video: 256

IP Address	Number Of Video Connections	Bitrate	Type

Total Connections 0

When clients are connected the following information will be displayed for each client:

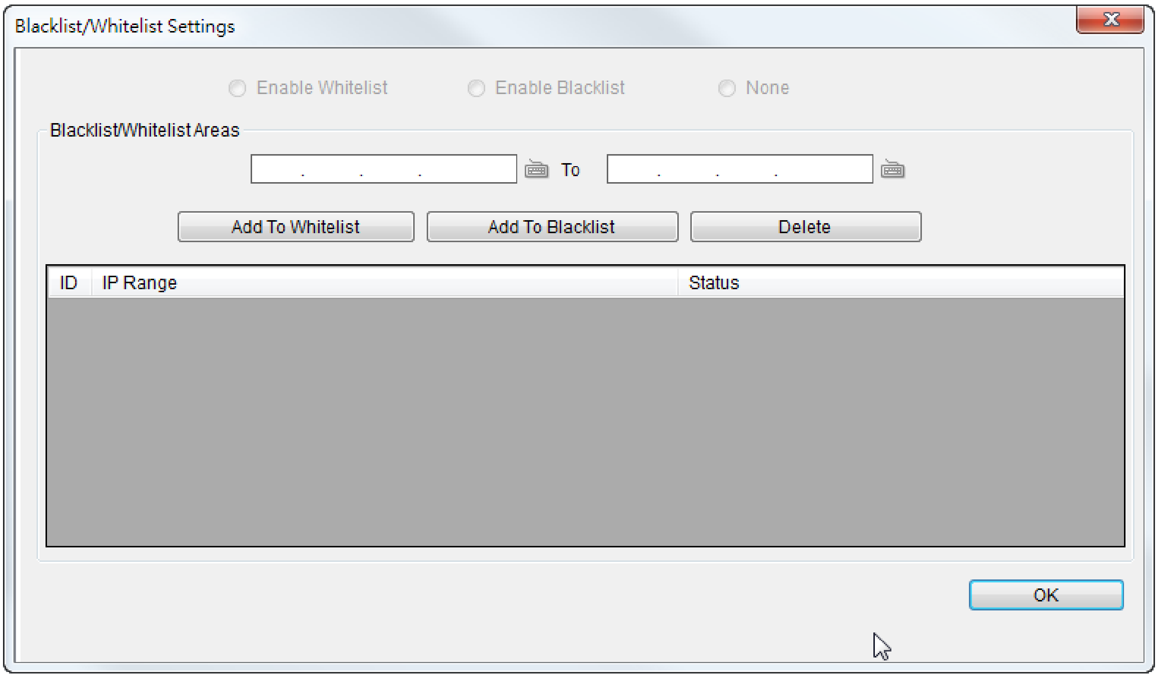
- **IP Address**
- **Number of Video Connections -** The number of streams that the client is using.
- **Bitrate** – The total bitrate of that the client is consuming.
- **Type**

There are also some options that can be changed in this dialog:

- **Maximum Connections -** Change this number to limit the total number of video connections. Default is 256. Click **Save** to save the changes.
- **Kill All Client** – This button disconnects all clients connected on the Server.
- **Kill Client** – Selecting a client from the client list and clicking this button will disconnect the client from the Server.

Blacklist/Whitelist Settings

To setup a blacklist or whitelist:



1. Enter an IP range in the two IP fields. The first IP address should be lower than the second IP address.

2. Click either **Add to Whitelist** or **Add to Blacklist** to add the IP range to the whitelist or blacklist respectively.

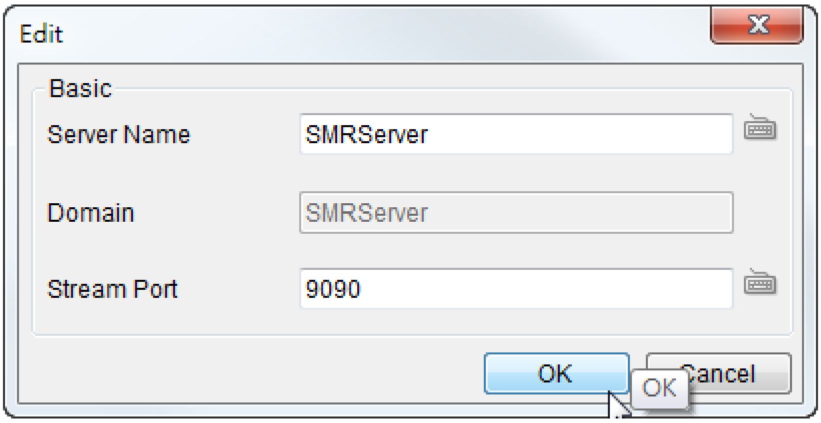
3. Repeat the first two steps to set up the blacklist and whitelist. You can select ranges that have already been configured from the list and click **Delete** to delete them.

4. When completed, click either **Enable Whitelist** to allow only the IP ranges on the whitelist to access the Server, or **Enable Blacklist** to block all the IP ranges on the blacklist from accessing the Server.

5. Click **OK** to save your changes.

Edit NVR

Users can change both the setting of the stream port and the IP address by editing the Server.



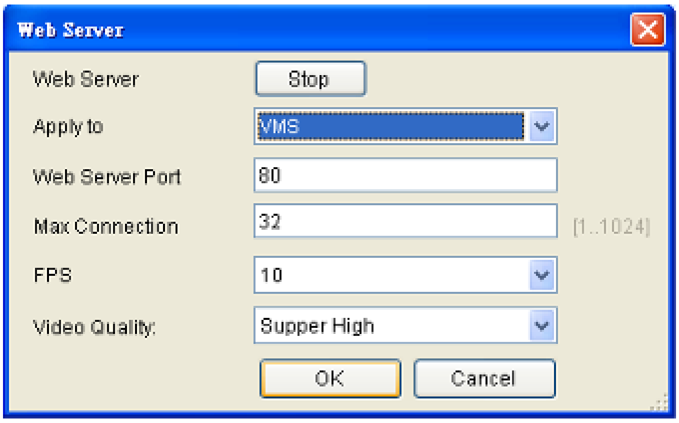
Server Name: SMRServer

Domain: SMRServer

Stream Port: 9090

Web Server

For users who want to use the Web Client/SPhone Client, please fill in the following information for the Web Server settings.



Web Server: Stop

Apply to: VMS

Web Server Port: 80

Max Connection: 32 [1..1024]

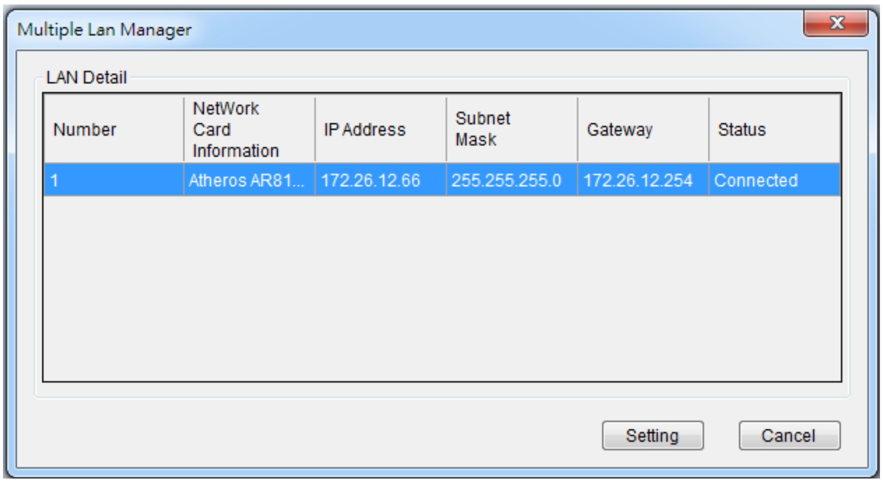
FPS: 10

Video Quality: Supper High

Note: (1) User may just keep the default settings in the Web Server. (2) Do not set the Web Server Port as these port numbers – 8080 (Web Stream Port), 9090 (NVR Stream Port), 2809 (NVR Server Login Port), 7735 (TV Wall Port (2.5.0)), 7734, 1024, 9010 (Domain Broadcast Port), 9030 (Domain Client Message Port), 9040 (Domain Console Message Port), 9050 (Domain Local Communication Port), 9020 (Domain Remote Communication Port), 9080 (Domain Local Log Data Download Port), 9081 (Domain Remote Log Data Download Port), 9060 (Domain Local Data Port), 9061 (Domain Remote Data Port), 15507 (Domain Local Log Message Download Port), 15503 (Domain Remote Log Message Download Port), 15501 (Domain Remote Log Upload port), 15505 (Domain Local Log Upload Port), 40000 (NVR Broadcast Port), 50000 (NVR Message Port).

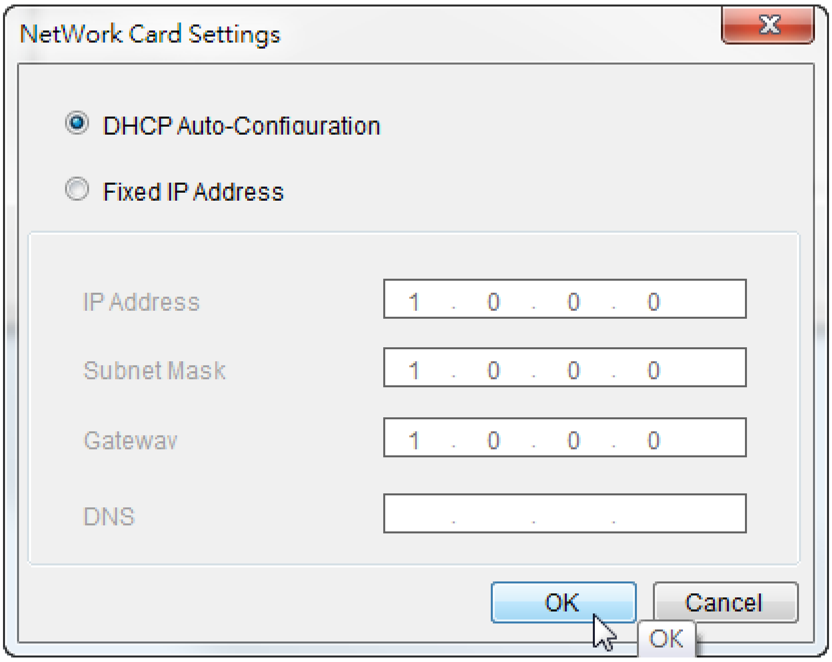
Multiple LAN Support

Multiple network cards can be supported. Their information is listed as below:



Number	NetWork Card Information	IP Address	Subnet Mask	Gateway	Status
1	Atheros AR81...	172.26.12.66	255.255.255.0	172.26.12.254	Connected

Click the **“Setting”** to set the Network Card to DHCP Auto-Configuration or Fixed IP Address.



NetWork Card Settings

● DHCP Auto-Configuration

○ Fixed IP Address

IP Address: 1 . 0 . 0 . 0

Subnet Mask: 1 . 0 . 0 . 0

Gateway: 1 . 0 . 0 . 0

DNS: . . .

DHCP Server

The VMS has built in DHCP server functionality. Although this function is disabled by factory default, it should be turned on in the event that there is no DHCP service available. When enabled, the VMS will assume DHCP Server duties and assign addresses within the range specified.

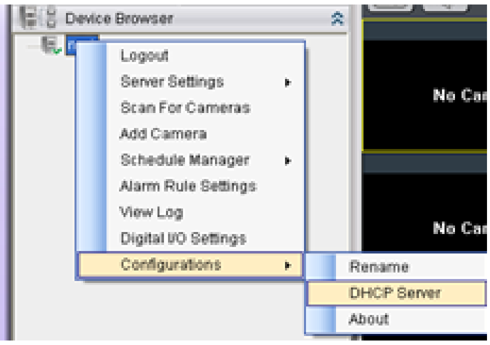
> **Note:** You may skip this step if you have separate DHCP service. Most routing devices will have DHCP capabilities.

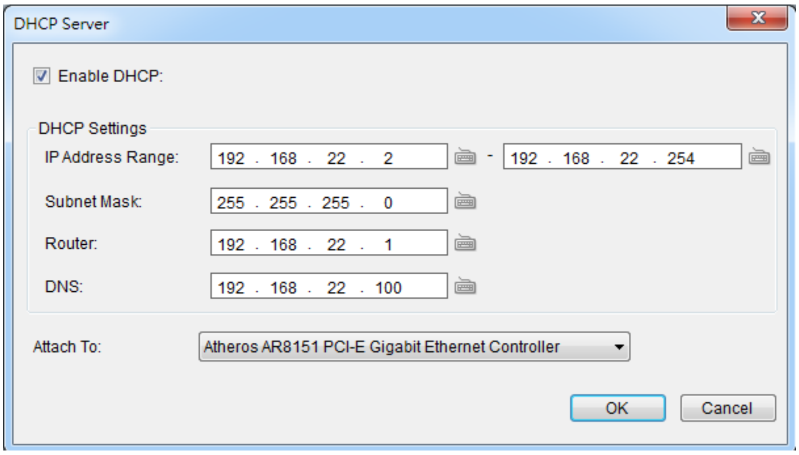
1. Right-click the VMS Server and select ***Configurations > DHCP Server*** option to bring up the *DHCP Server* dialog box.

2. Fill in the following information:

   - **IP Address Range** - The range of addresses to be assigned. The first IP address should be lower than the second IP address.
   - **Subnet Mask**
   - **Router** - The router IP
   - **Domain Name** - The DNS IP

Note: DHCP service can also be configured by clicking ***Network Parameters*** **>** ***Main Tasks*** **>** ***DHCP Server*** in the VMS Console.





☑ Enable DHCP:

DHCP Settings

IP Address Range: 192 . 168 . 22 . 2 - 192 . 168 . 22 . 254

Subnet Mask: 255 . 255 . 255 . 0

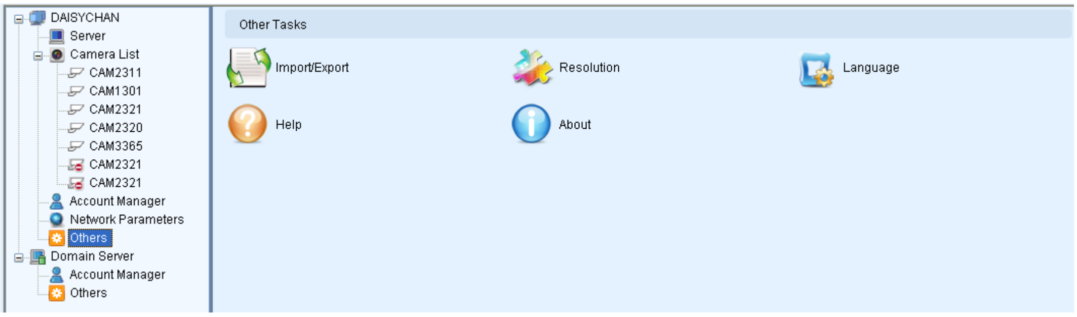
Router: 192 . 168 . 22 . 1

DNS: 192 . 168 . 22 . 100

Attach To: Atheros AR8151 PCI-E Gigabit Ethernet Controller

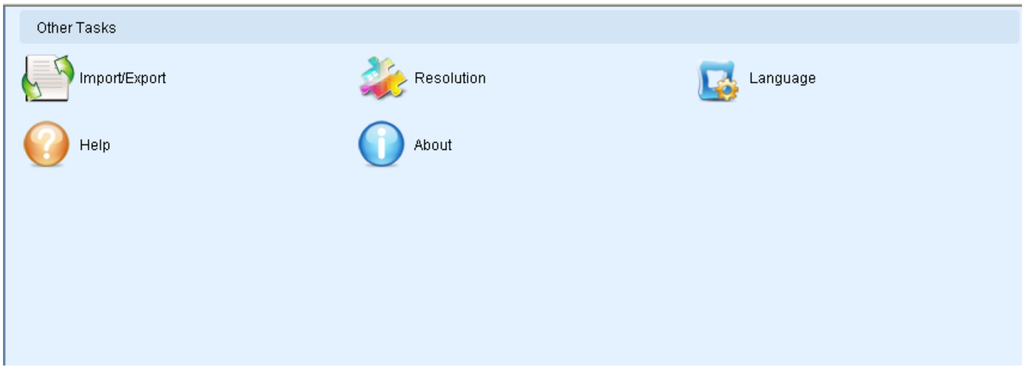
Note: The DHCP service should be attached to a network card.

13.7. Other Parameters



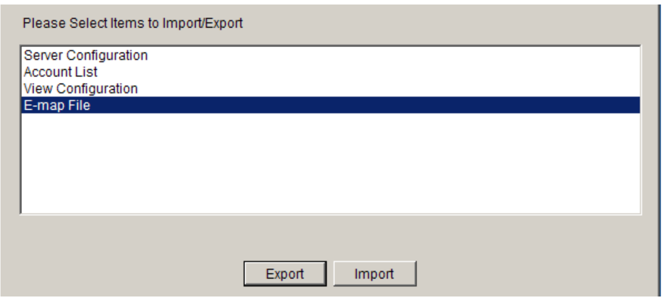
13.7.1. Other Tasks

Here you can access shortcuts for miscellaneous settings.



Import/Export

The following types of configuration/setup files can be imported/exported to the Server:


Please Select Items to Import/Export

- **Server Configuration**
- **Account List**
- **View Configuration**

- **E-map File**

Importing Parameters

To import parameters into the Server:

1. Select the item that you wish to import by clicking on the item type.
2. Click the **Import** button. A windows explorer dialog will appear.
3. Select the file to import from the file explorer, and click **Open** to import the file.
4. Click **OK** to confirm import. The Server will require a restart before imported configurations and files are applied.

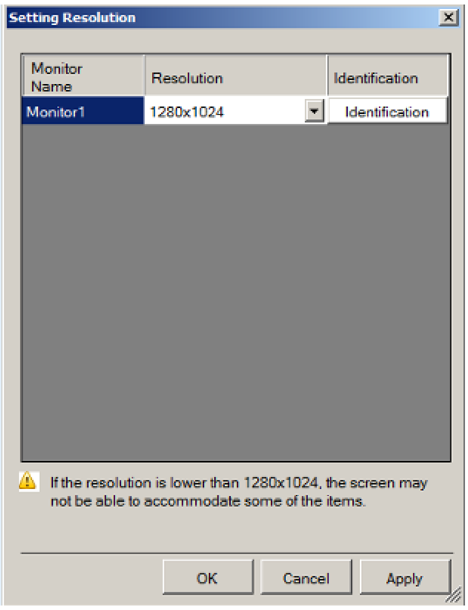
Exporting Parameters

To export parameters into the Server:

1. Select the item that you wish to export by clicking on the item type.
2. Click the **Export** button. A windows explorer dialog will appear.
3. Input a filename and select the export path in the file explorer, and click **Save** to export the file.

Resolution

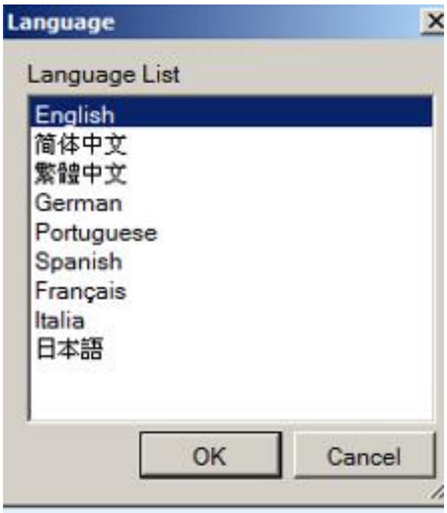
Shows the monitor resolution, and allows you to change its setting.



Monitor Name	Resolution	Identification
Monitor1	1280x1024	Identification

⚠ If the resolution is lower than 1280x1024, the screen may not be able to accommodate some of the items.

Language



Allows you to change the interface language.

Help

Allows you to access the VMS User Manual.

About

Allows you to view server and client information. See *Server Basic Functions* > *Viewing Server and Client Information* for more details.

Chapter 14. System Maintenance

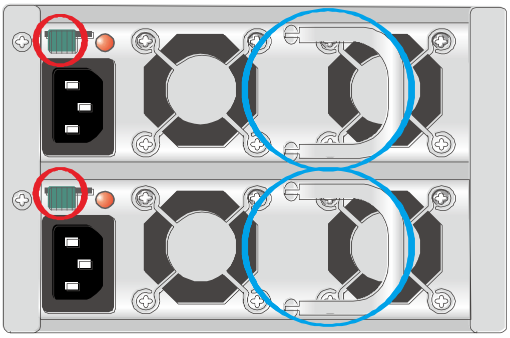
Warning: (1) Do not remove a failed component from the system until you have a replacement on hand. If you remove a failed component without replacing it, the internal airflow will be disrupted. (2) Qualified engineers who are familiar with the system should be the only ones who make component replacements.(3) When inserting a removable module, do not use excessive force. Forcing or slamming a module can damage the connector pins either on the module itself or on the backplane.

14.1. Replacing the Power Supply Module (for Rackmount Series)

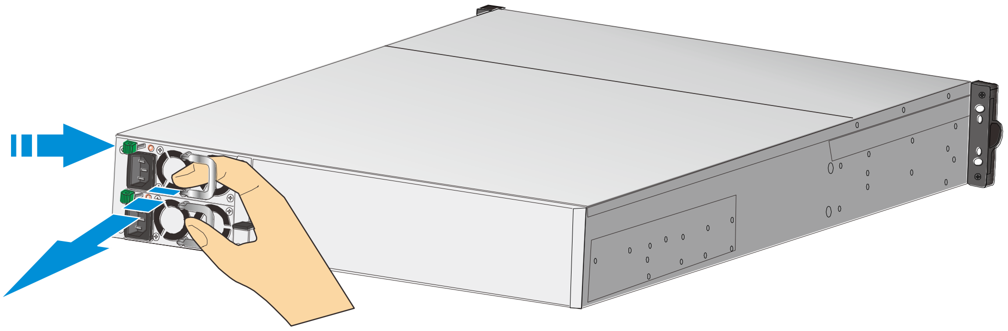
Power supplies are redundant and load-sharing. PSUs are hot swappable!

Disconnect the power cord from the failed power supply. (Its LED should light static Red).

Place your thumb around the left side of the PSU ejection lever (circled in **red**) while hooking your index and middle finger around the PSU handles (circled in **blue**).



Use your thumb to push the lever in the direction of arrow (shown below) to disengage the power supply and use your index and middle finger hooked around the ejection lever to pull out the PSU.



To install the replacement module, make sure it is gently inserted and is pushed all the way in.

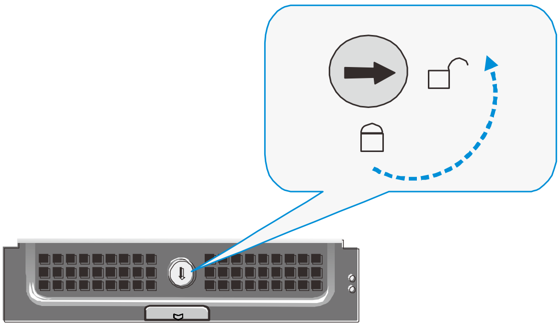
Connect the power cord, power on, and check if the LED lights static Green.

14.2. Replacing a Hard drive (for Desktop Series)

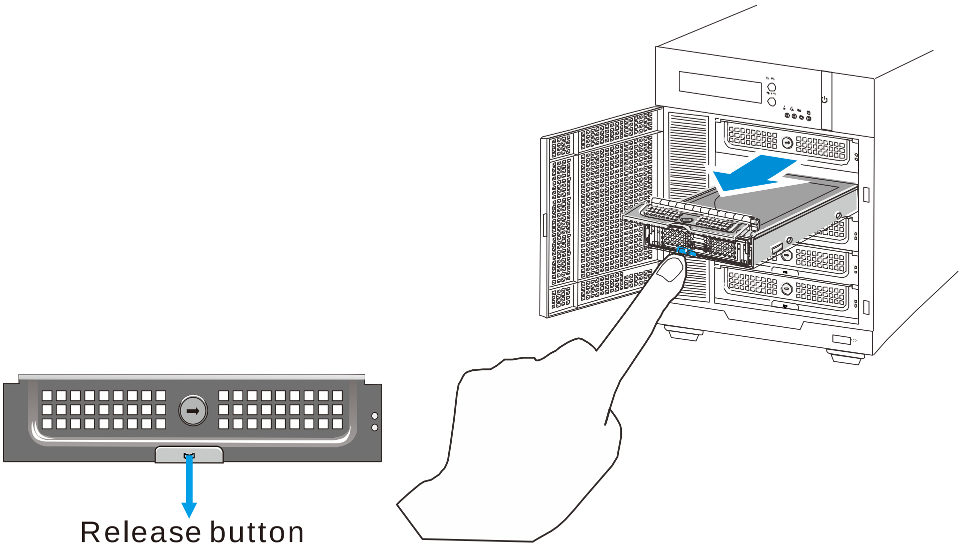
The easiest way to find out if your hard disk drive has failed is by looking at the hard drive status LED. If the power status lights up red, it indicates that that particular hard disk drive has failed. Hard drives are hot swappable, to replace it, please refer to the following procedure:

1. Locate the failed hard drive with a red status LED (hard drive status LED).

2. Unlock the hard drive tray by turning the bezel to the unlock position.

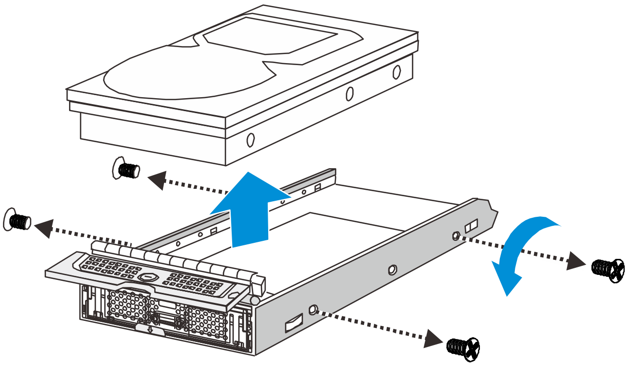


3. Open the tray bezel by pushing the release button (indicated by the blue arrow) and the front bezel will automatically open.

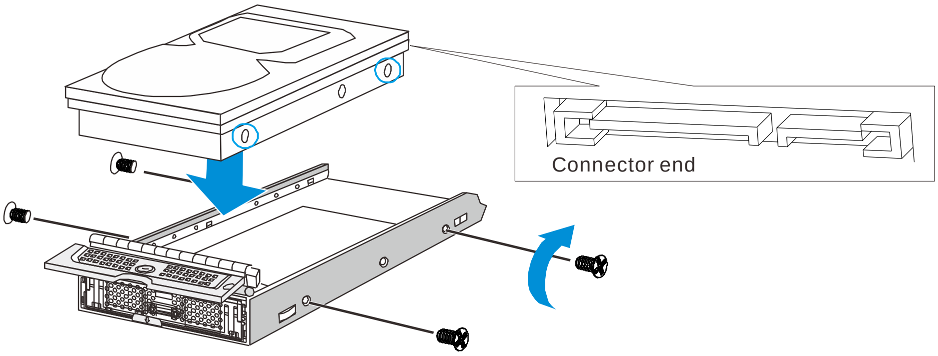


4. Remove the drive tray by pulling it one inch away from the drive bay. Wait for at least 30 seconds for the hard drive to spin-down, and then gently and carefully remove the drive tray from the chassis.

5. Remove the four retention screws that secure the hard drive from the sides of the drive tray (two on each side).

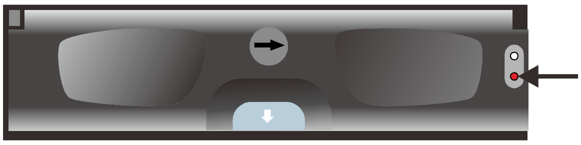


6. Install the replacement hard drive as shown below and reinserted into the enclosure.

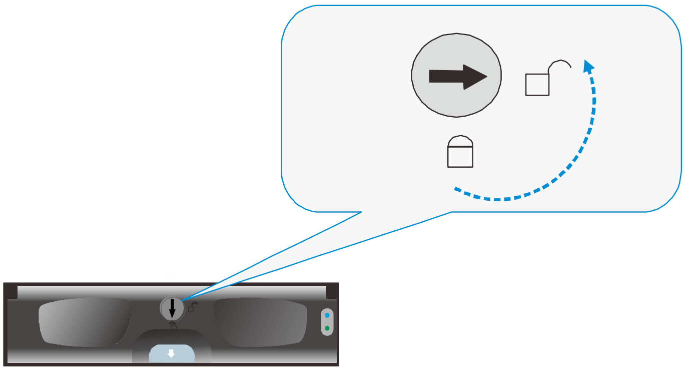


14.3. Replacing a Hard drive (for Rackmount Series)

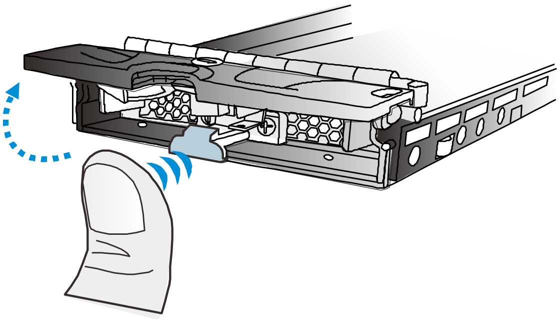
The easiest way to find out if your hard disk drive has failed is by looking at its status LED. If the power status lights up red, it indicates that the particular hard disk drive has failed.



Hard disk drives are hot swappable and to replace the failed hard drive, use a small flathead screwdriver to rotate the bezel lock from the lock position to the unlock position.

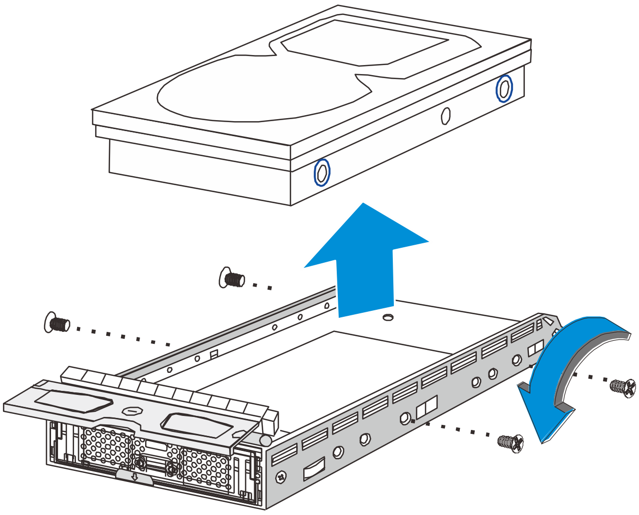


Press the release button on the tray bezel to open the bezel.

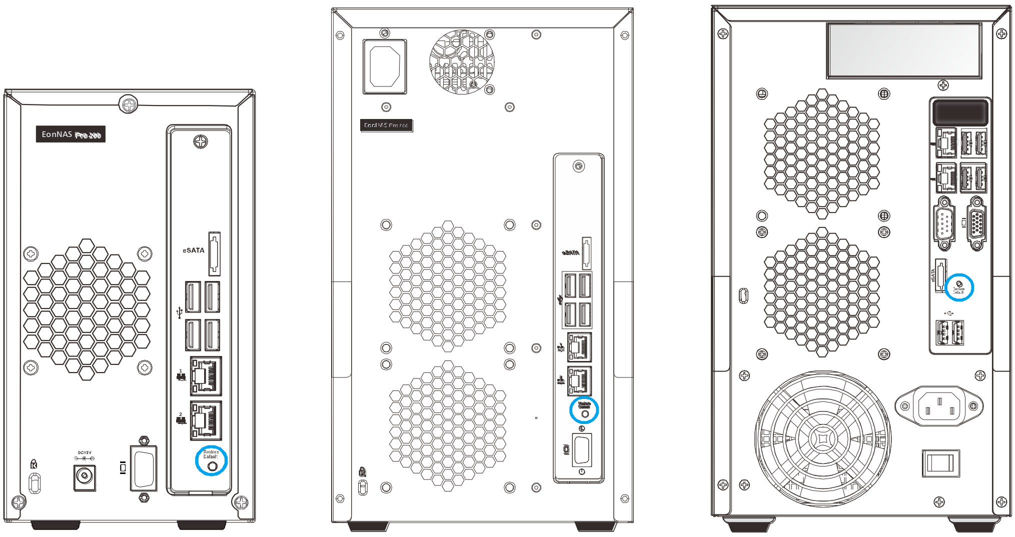


Remove the drive tray by pulling it one inch out of the drive bay and wait for at least 30 seconds for the disk drive to spin-down and then gently pull out the drive tray from the chassis.

Remove the four retention screws that secure the hard drive from the sides of the drive tray (two on each side).



14.4. Restore Default Settings



Use the tip of a pen to press and hold the restore button for 3~5 seconds and release, a beep will sound to indicate that default settings have been restored:

Restores the following settings	Retains the following settings
1. NVR General Settings 2. VMS Console Settings 3. General Server Settings 4. Notification Settings 5. Pre/Post Alarm Settings 6. Schedule Manager Settings 7. Alarm Rule Settings 8. Digital I/O Settings 9. SMR/VMS Configurations (ex: DHCP Server...) 10. Camera Settings 11. Image/Video Settings 12. VI Settings 13. PTZ Settings	1. Log information 2. Video recordings 3. HDD RAID configuration 4. Storage Manager Settings

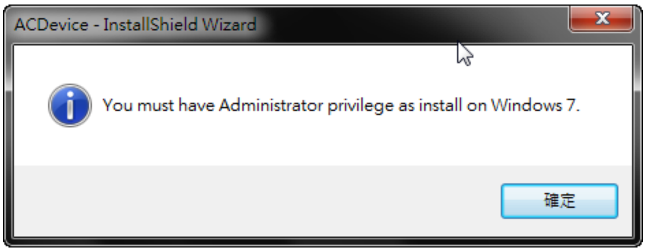
Chapter 15. AC Device Tool

AC Device Tool is a small but useful tool for you to have easy access control. AC Device Tool connects Access Control System and NVR, via NVR connecting to IP camera to provide live video and event associated playback. It's now compatible with the Suprema Access Control System.

15.1. Installing the Access Control Device Tool

1. Click on the installer icon and begin the AC Device Tool installation.

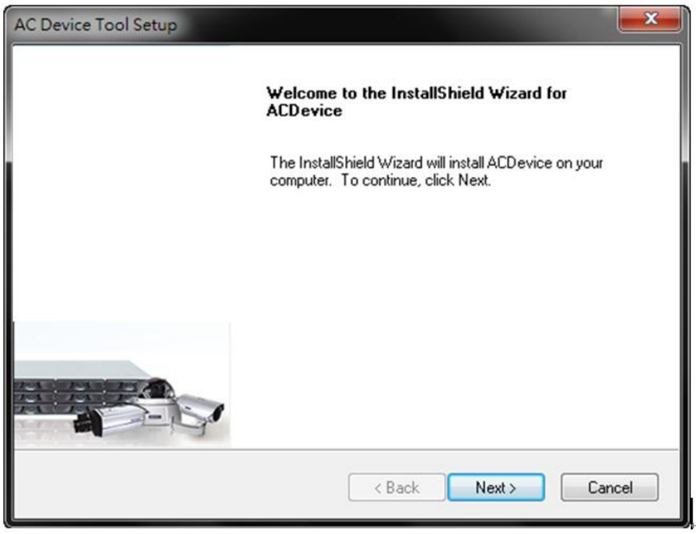
2. You need to make sure that you have administrator privilege on your system before the installation begins.



ACDevice - InstallShield Wizard

You must have Administrator privilege as install on Windows 7.

3. After confirmation, an InstallShield Wizard for AC Device will guide you through all the installation steps. Click **"Next"** to continue.

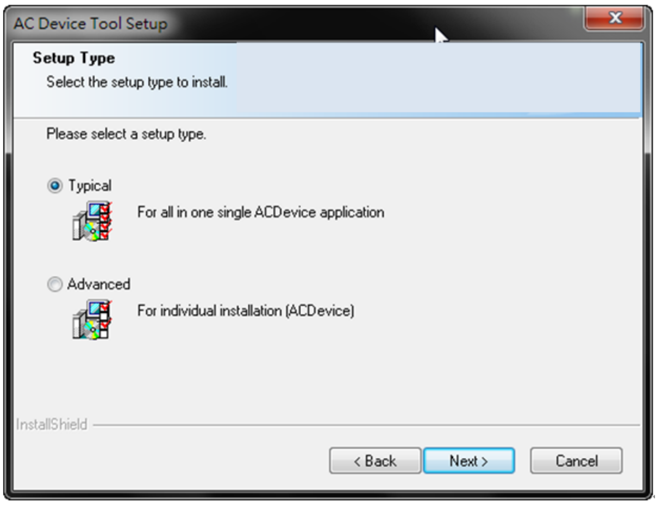


AC Device Tool Setup

Welcome to the InstallShield Wizard for ACDevice

The InstallShield Wizard will install ACDevice on your computer. To continue, click Next.

4. Select **“Typical”** to have all in one single AC Device Tool application. Select **“Advanced”** to have an individual AC Device Tool installation. After selected, click **“Next”** to continue.



Setup Type

Select the setup type to install.

Please select a setup type.

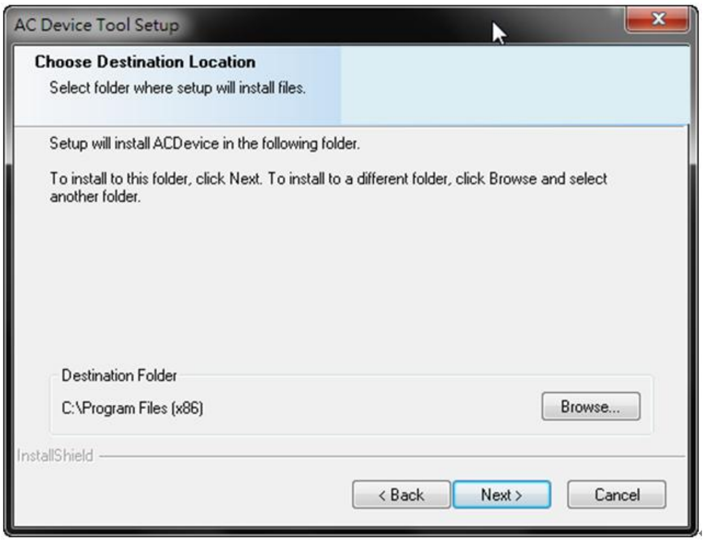
● Typical

For all in one single ACDevice application

○ Advanced

For individual installation (ACDevice)

5. Click **“Browser”** to choose a destination location for the install files. After selected, click **“Next”** to continue.



Choose Destination Location

Select folder where setup will install files.

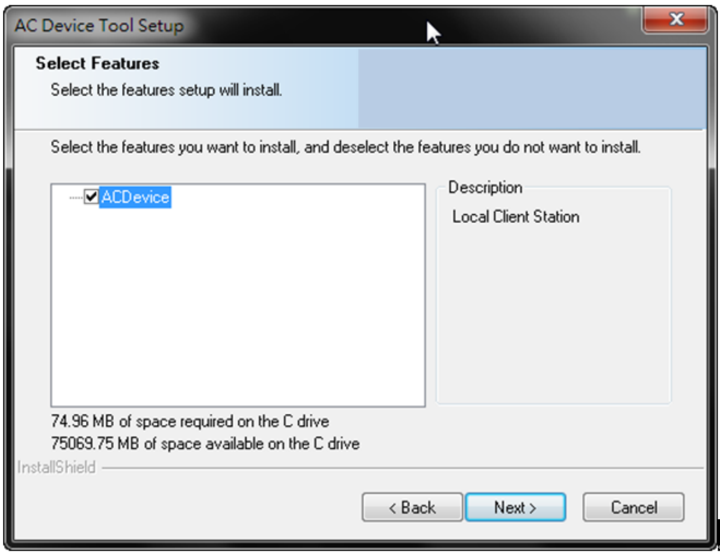
Setup will install ACDevice in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select another folder.

Destination Folder

C:\Program Files (x86)

6. Select the features you'd like to install. After selected, click **"Next"** to continue.



AC Device Tool Setup

Select Features

Select the features setup will install.

Select the features you want to install, and deselect the features you do not want to install.

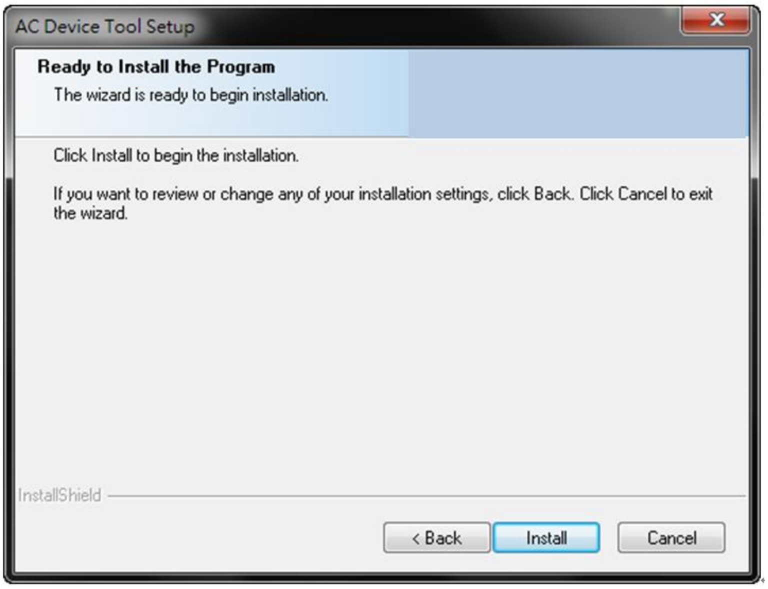
☑ ACDevice

Description

Local Client Station

74.96 MB of space required on the C drive
75069.75 MB of space available on the C drive

7. Click **"Install"** to begin the installation.



AC Device Tool Setup

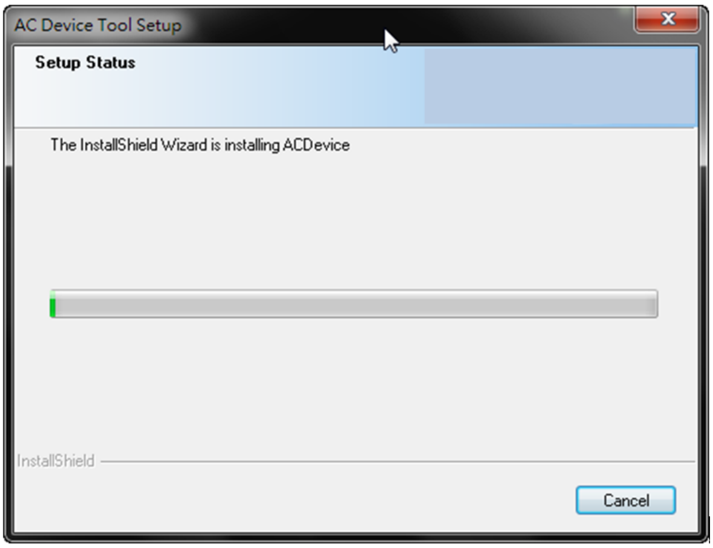
Ready to Install the Program

The wizard is ready to begin installation.

Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

8. A setup status bar will show up on the screen to indicate the progress.

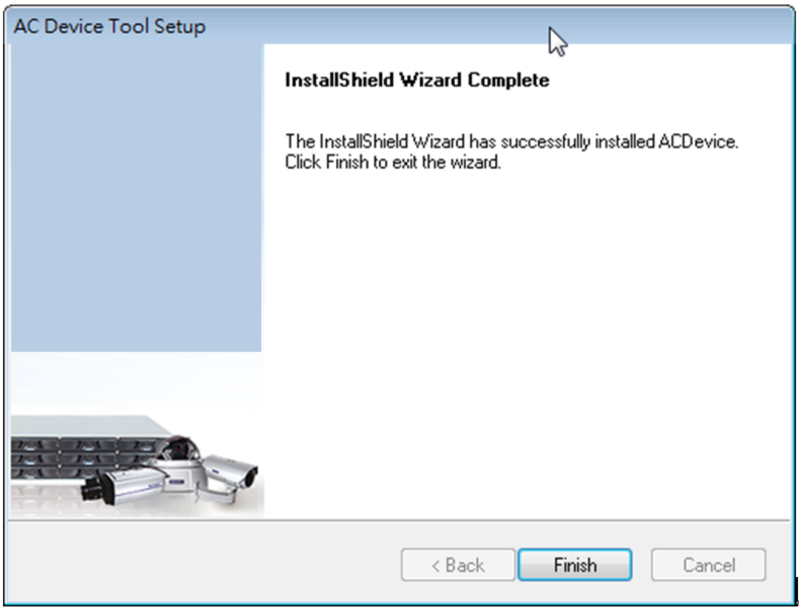


AC Device Tool Setup

Setup Status

The InstallShield Wizard is installing ACDevice

9. After the AC Device Tool installation is complete, click **"Finish"** to exit.

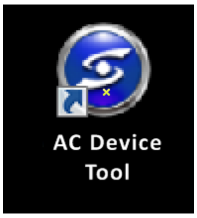


AC Device Tool Setup

InstallShield Wizard Complete

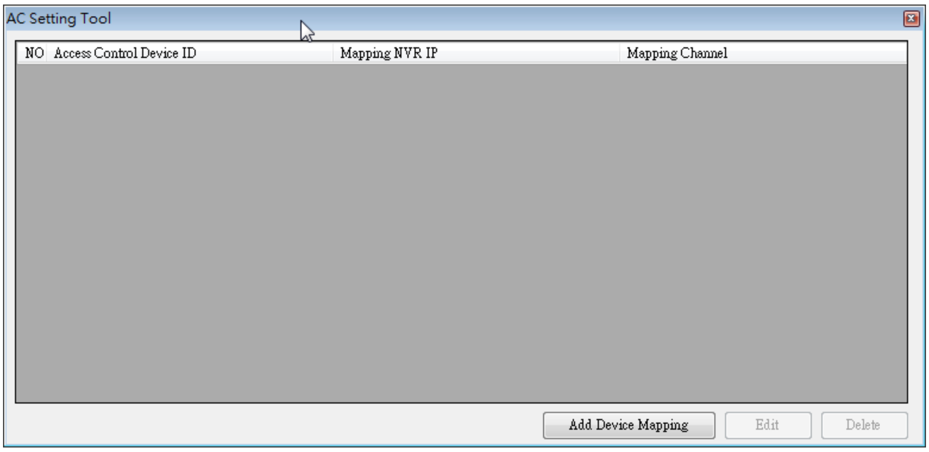
The InstallShield Wizard has successfully installed ACDevice. Click Finish to exit the wizard.

10. After that you'll see a new icon on your desktop. The AC Device Tool installation is now complete.

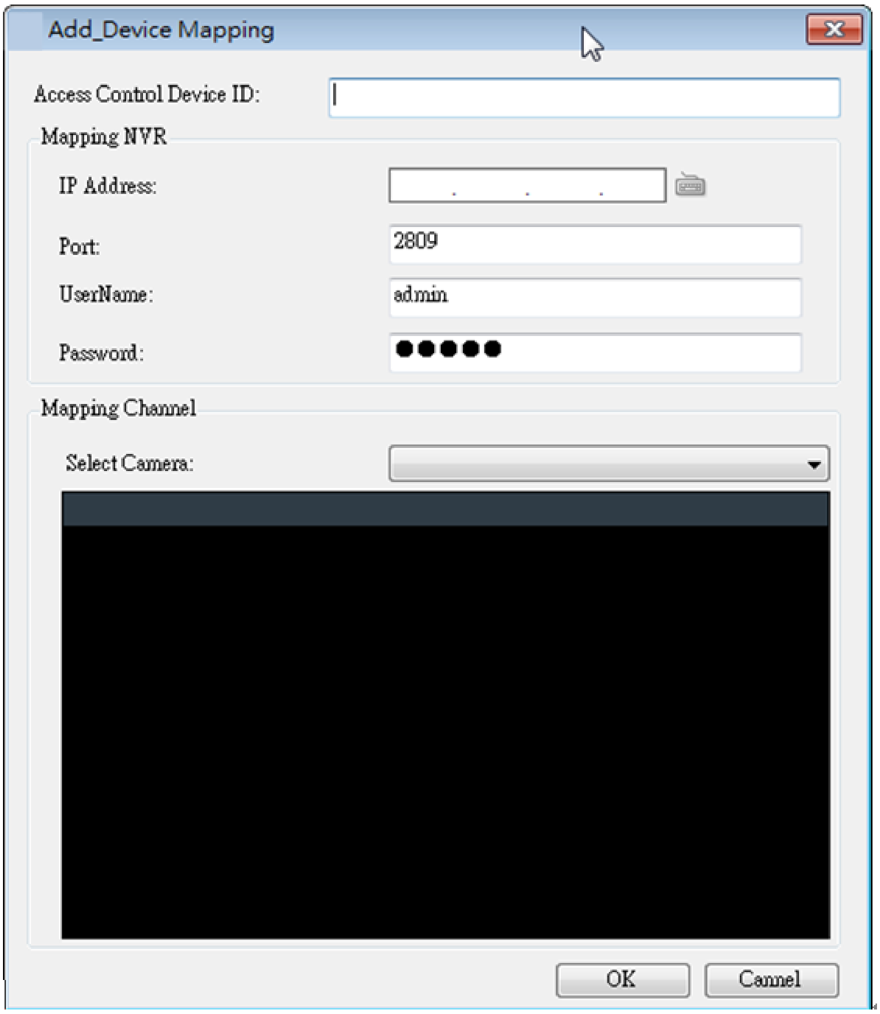


15.2. How AC Device Tool works

1. Click on the AC Device Tool icon to open and add Device Mapping.



2. Key in the information required to have your Access Control device mapped.



Access Control Device ID:

IP Address: . . .

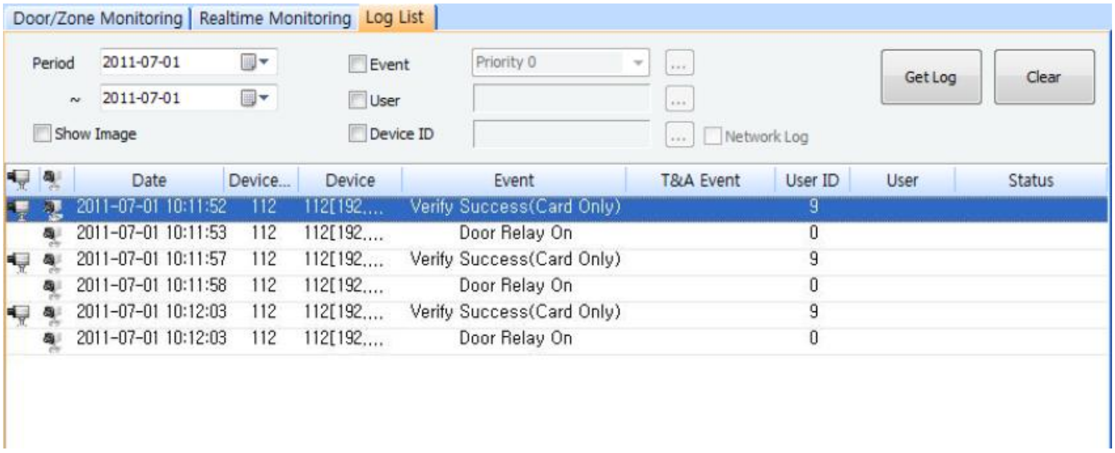
Port: 2809

UserName: admin

Password: ●●●●●

Select Camera:

3. After setup, when using the Suprema Access Control System, you can click on the camera icon on the Log List to have a 10-minutes playback images.



Door/Zone Monitoring | Realtime Monitoring | Log List

Period 2011-07-01 ~ 2011-07-01

□ Show Image

□ Event Priority 0

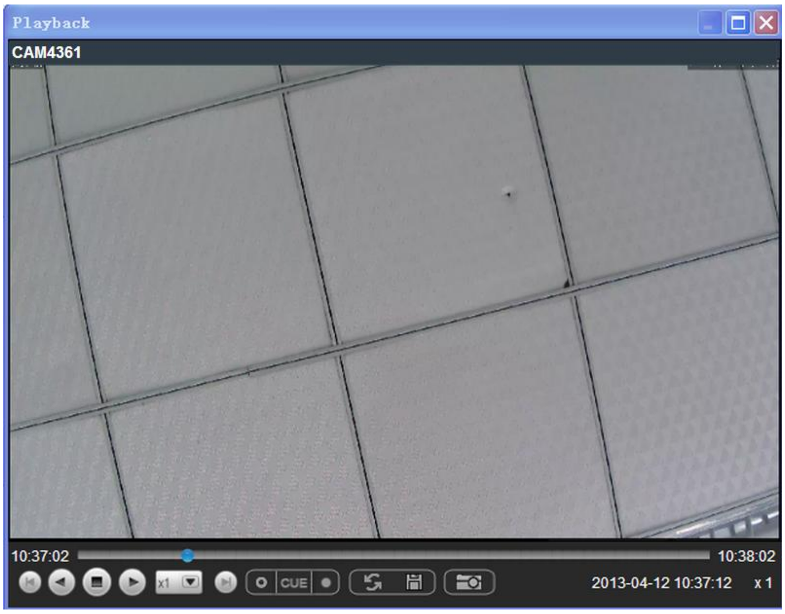
□ User

□ Device ID

□ Network Log

Get Log | Clear

		Date	Device...	Device	Event	T&A Event	User ID	User	Status
		2011-07-01 10:11:52	112	112[192,...	Verify Success(Card Only)		9		
		2011-07-01 10:11:53	112	112[192,...	Door Relay On		0		
		2011-07-01 10:11:57	112	112[192,...	Verify Success(Card Only)		9		
		2011-07-01 10:11:58	112	112[192,...	Door Relay On		0		
		2011-07-01 10:12:03	112	112[192,...	Verify Success(Card Only)		9		
		2011-07-01 10:12:03	112	112[192,...	Door Relay On		0		



Playback

CAM4361

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